Addition of new 5800 series transmitters with this control panel is prohibited, other than for repair of existing installations. Non-permitted use voids U.S. warranty.

Previous Menu

VISTA-20

2-PARTITIONED SECURITY SYSTEM

INSTALLATION INSTRUCTIONS

ADEMCO

N7526V2 11/95

RECOMMENDATIONS FOR PROPER PROTECTION

The following recommendations for the location of fire and burglary detection devices help provide proper coverage for the protected premises.

Recommendations For Smoke And Heat Detectors

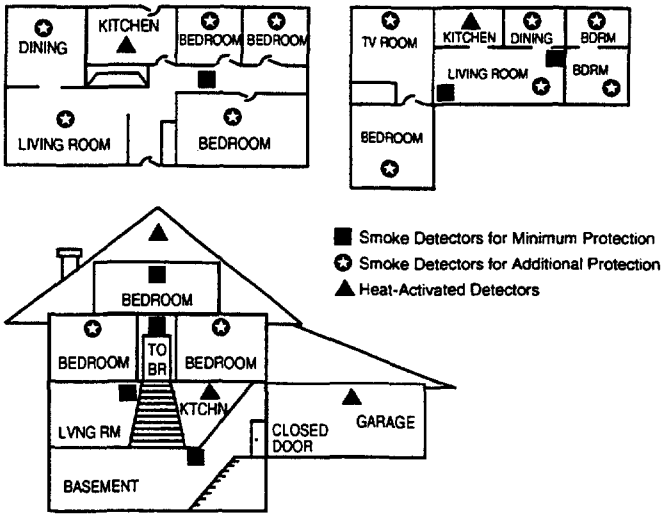
With regard to the number and placement of smoke/heat detectors, we subscribe to the recommendations contained in the National Fire Protection Association's (NFPA) Standard #72 noted below.

Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows: For minimum protection a smoke detector should be installed outside of each separate sleeping area, and on each additional floor of a multi-floor family living unit, including basements. The installation of smoke detectors in kitchens, attics (finished or unfinished), or in garages is not normally recommended.

For additional protection the NFPA recommends that you install heat or smoke detectors in the living room, dining room, bedroom(s), kitchen, hallway(s), attic, furnace room, utility and storage rooms, basements and attached garages.

In addition, we recommend the following:

- Install a smoke detector inside every bedroom where a smoker sleeps.
- Install a smoke detector inside every bedroom where someone sleeps with the door partly or completely closed. Smoke could be blocked by the closed door. Also, an alarm in the hallway outside may not wake up the sleeper if the door is closed.
- Install a smoke detector inside bedrooms where electrical appliances (such as portable heaters, air conditioners or humidifiers) are used.
- Install a smoke detector at both ends of a hallway if the hallway is more than 40 feet (12 meters) long.
- Install smoke detectors in any room where an alarm control is located, or in any room where alarm control connections to an AC source or phone lines are made. If detectors are not so located, a fire within the room could prevent the control from reporting a fire or an intrusion.



Recommendations For Proper Intrusion Protection

For proper intrusion coverage, sensors should be located at every possible point of entry to a home or commercial premises. This would include any skylights that may be present, and the upper windows in a multi-level building.

In addition, we recommend that radio backup be used in a security system so that alarm signals can still be sent to the alarm monitoring station in the event that the telephone lines are out of order (alarm signals are normally sent over the phone lines, if connected to an alarm monitoring station).

TABLE OF CONTENTS

Section 1. GENERAL DESCRIPTION 9

Section 2. INSTALLING THE CONTROL 12
Mounting the Cabinet 12
Installing the Lock (if used) 12
Mounting the Control's Circuit Board Alone in the Cabinet 13
Mounting Control and RF Receiver Circuit Boards Together in the Cabinet 14
Standard Phone Line Connections 15
Wiring the AC Transformer 15
Installing the Back-Up Battery 16
Earth Ground Connections 16

Section 3. INSTALLING REMOTE KEYPADS 17
Keypads That May Be Used 17
Wiring The Keypads 17
Mounting The Keypads 18
Using A Supplementary Power Supply To Power Additional Keypads 18
Preliminary Check-Out Procedure 19

Section 4. MECHANICS OF PROGRAMMING 20
General Programming Information 20
Entering Program Mode 20
Programming a Data Field 20
Reviewing a Data Field/Erasing an Entry in a Data Field 21
Interactive Mode Programming (*56, *80, *82, and *83) 21
Loading Factory Defaults 21
Programming System Setup Fields 21
Exiting the Programming Mode 21

Section 5. BASIC HARD-WIRED ZONES 1–8 22
Installing the Hard-Wired Zones 22
Common Characteristics For Zones 1–8 22
Wiring Burglary and Panic Devices to Zones 1–8 22
Wiring 2-Wire Smoke Detectors to Zone 1 22
"Verify" Operation of 2-Wire Smoke Detectors in Zone 1 22
Turning Off Fire Alarm Sounding 23
Wiring 4-Wire Smoke/Combustion Detectors on Zones 2–7 23
Wiring 2-Wire Latching Type Glass Break Detectors on Zone 8 24
Programming Hard-Wired Zones 25
Check-Out Procedure for Hard-Wired Zones 27

Section 6. WIRED ZONE EXPANSION (4219, 4229) 28
Installing Zone Expansion Units 28
Connections and Set-Up 28
Programming Wired Expansion Zones 29
Check-Out Procedure for Wired Expansion Zones 31

Section 7. WIRELESS ZONE EXPANSION (5800 SYSTEM) 32
General Information 32
Receiver Supervision 32
House Identification 32
Installing the 5881/5882 RF Receiver 33
RF System Installation Advisories 33
Installation and Set-Up of the 5881/5882 Receiver 33
Installing the 5800TM Module 34
Mounting the 5800TM Module 34
5800TM Wiring Connections 34
5800 Series Transmitters 34
General 34
Transmitter Supervision 34

Transmitter Input Types 35
Transmitter Battery Life 35
Programming the Receiver and Transmitters 36
Using the Transmitter Sniffer Mode 39
To Either Temporarily or Permanently Remove a Zone From the System 39
Deleting a Transmitter Serial Number From a Zone in *56 Mode 39
5800 Series Transmitters Table 40
Installing 5800 Series Transmitters 41
Go/No Go Test Mode 41
Setting DIP Switches on the 5827 Transmitter(s) 41

Section 8 RELAY OUTPUTS & POWERLINE CARRIER DEVICES 42
Relay/Powerline Carrier Device Basics 42
Nos. 4204 And 4229 Output Relay Modules 42
4204/4229 Setup 42
Powerline Carrier Devices 43
Wiring Connections 44
Programming Options Defined 45
Programming Output Relays and Powerline Carrier Devices 47

Section 9. 4285 VOICE MODULE 50
Installing the Voice Module 50
General Information 50
Mounting The Voice Module 50
Voice Module Wiring 51
Caller ID Units 51
Programming The Control For Phone Access 53
Checking the Operation of the 4285 Voice Module 54

Section 10. EXTERNAL SOUNDERS 55
Compatible Sounders 55
Sounder Connections 56
Programming For External Sounders 56
Testing the Sounder 57

Section 11. LONG RANGE RADIO 58
General Information 58
Connection 58
Programming 58

Section 12. REMOTE KEYSWITCH 59
Installing the Keyswitch 59
Remote Keyswitch Connections 59
Programming for the Remote Keyswitch 61
Keyswitch Operation 62

Section 13. AUDIO ALARM VERIFICATION (AAV) UNIT 63
General Information 63
Wiring Connections 63
Programming 63

Section 14. FINAL POWER UP 65
Earth Ground Connections 65
Connecting the Back-Up Battery 65
Calculating the Battery Size Needed 65
Making the Battery Connections 66
Auxiliary Device Current Draw Worksheet 66

Section 15. ALPHA DESCRIPTION PROGRAMMING 67
Assigning Zone Descriptors 67
Entering Zone Descriptors (in program Menu Mode *82) 67
Programming the Descriptors 67
Alternate Method for Programming Zone Descriptors 69
Adding Custom Words 70

Alpha Vocabulary List (For Entering Zone Descriptors) 71
Character (ASCII) Chart 71

Section 16. USING * 83 MODE TO ADD, DELETE, OR CHANGE SERIAL NUMBERS OF WIRELESS TRANSMITTERS 72
Adding a Serial Number 72
Deleting a Serial Number 73
Changing a Serial Number 74

Section 17. SYSTEM COMMUNICATION 75
Report Code Formats 75
Table of Contact ID Codes 77
Communication Programming 78

Section 18. ZONE RESPONSE TYPE DEFINITIONS 83

Section 19. DATA FIELD DESCRIPTIONS 85
Description of System Data Fields 85

Section 20. REMOTE PROGRAMMING AND CONTROL (DOWNLOADING) 96
General Information 96
Equipment Required 96
Initial Download 96
Remote Programming Information 96
Remote Programming Advisory Notes 97

Section 21. TESTING THE SYSTEM 98
Test Procedure 98
To the Installer 99

Section 22. SYSTEM OPERATION 100
Security Codes 100
Installer Code 100
Master Code 100
Secondary User Codes 100
Keypad Functions 101
General Information 101
Arming Functions 101
Panic Keys 102
Relay/Powerline Carrier Devices (if used) 102
4285 Voice Module 102
Exit Alarm Displays 102
Trouble Conditions 103
General Information 103
"Check" and "Battery" Displays 103
Telephone Line Failure 103
Power Failure 103
Other Displays (Fixed Word Keypads) 103

Section 23. TROUBLESHOOTING GUIDE 104
Contacting Technical Support In The Event Of Problems 106

REGULATORY AGENCY STATEMENTS 107

Section 24. SPECIFICATIONS & ACCESSORIES 108
Specifications 108
Accessories (Compatible Devices) 110

APPENDIX A. 5800 RF System Wireless Transmitters, Input Loop Identification Diagrams 111

Limitations Of This Alarm System 113
Index 114
Limited Warranty 119
Programming Form ..... Insert

LIST OF FIGURES

Figure 1. Installing the Cabinet Lock 12
Figure 2. Mounting The PC Board 13
Figure 3. Mounting the PC Board & RF Receiver Together in the Cabinet..... 14
Figure 4. Telephone Line Connections 15
Figure 5. Connection of 4300 Transformer to the Control Board 16
Figure 6. Keypad Connections to the Control Board 18
Figure 7. Using a Supplementary Power Supply..... 19
Figure 8. 2-Wire Smoke Detector Connected to Zone 1 23
Figure 9. 4-Wire Smoke Detector Connections (Zones 2–7) 23
Figure 10. Glass Break Detector Connections to Zone 8 24
Figure 11. Wiring Connection, 4219 & 4229 (4229 shown) 28
Figure 12. 5881/5882 RF Receiver (cover removed)..... 33
Figure 13. 4229 Connections To Control 43
Figure 14. 4204 Connections To Control 43
Figure 15. 4300 Transformer Wiring Connections 44
Figure 16. 4285 Voice Module Wiring Connections 52
Figure 17. Typical Sounder Wiring 56
Figure 18. Long Range Radio Connections..... 58
Figure 19.
(A) Keyswitch Wiring (4300 Interface transformer Not Used) 60
(B) Keyswitch Wiring (4300 Interface transformer Also Used)..... 60
Figure 20. Connection of AAV Unit When Not Using a 4285 Voice Module 64
Figure 21. Connection of AAV Unit When Also Using a 4285 Voice Module... 64
Figure 22. VISTA–20 Summary of Connections ..... Inside Back Cover

HOW TO USE THIS MANUAL

This manual is written to accommodate both the new and the experienced installer of Ademco products. A general description of the entire system is located at the beginning of the manual. The wiring and physical setup of the hardware follows.

The sections at the core of the manual include both hardware setup and programming requirements of each device to make that specific device operational in the system. A checkout procedure is included at the end of each section. We recommend this method to ensure that each device is working properly before proceeding to the next section. It must also be used if you are making a particular addition to the system of one of these devices.

Each of the sections covering the installation of peripheral devices includes the programming for that device. Without an understanding of the programming of the system, you will not be able to successfully perform the required programming in each of these sections. We therefore urge you to read *Section 2. Mechanics of Programming* before any programming is performed.

If you are an experienced user of Ademco products, you may choose to wire and then program the entire system at once. If so, refer to *Section 4: Mechanics of Programming* and *Section 19. Data Field Descriptions* after the hardware setup is complete. A blank pull-out programming form is included with this manual.

This manual uses various icons to denote critical notes and technical tips to assist you with the installation of this system. These are easily seen in the left-hand column of the relevant information.

CONVENTIONS USED IN THIS MANUAL

MAIN SECTION TITLES ARE SHOWN IN REVERSE TYPE

Before you begin using this manual, it is important that you understand the meaning of the following symbols (icons).

UL These notes include specific information which must be followed if you are installing this system for a UL Listed application.

These notes include information that you should be aware of before continuing with the installation, and which, if not observed, could result in operational difficulties.

This symbol indicates a critical note that could seriously affect the operation of the system, or could cause damage to the system. Please read each warning carefully. This symbol also denotes warnings about physical harm to the installer.

Enter Zn Num.	
(00 = Quit)	01

Many system options are programmed in an interactive mode by responding to Alpha keypad display prompts. These prompts are shown in a double-line box.

*00

When programming the system, data fields are indicated by a "star" (*) followed by the data field number.

PRODUCT MODEL NUMBERS: Unless noted otherwise, references to specific model numbers represent Ademco products.

Section 1. GENERAL DESCRIPTION

The VISTA–20 is a 2-partition control that supports up to 32 zones, using basic hard-wired, wired expansion, and/or wireless, plus 3 keypad zones.

Basic Hardwired Zones

Provides 8 basic hardwired zones having the following characteristics:

- EOLR supervision supporting N.O. or N.C. sensors
- Programmable response time (10, 350, or 700 milliseconds)
- Individually assignable to either partition
- Up to sixteen 2-wire smoke detectors on zone 1
- 4-wire smoke or heat detectors on zones 2 through 7 (as many as can be powered from AUX power on the control)
- Up to fifty 2-wire latching type glassbreak detectors on zone 8 with auto reset

Optional Expansion Zones (up to 24 total, wired and wireless)

Wired Expansion:

Supports up to 8 additional wired zones using a 4219 expansion module or 4229 expansion/relay module. These zones have the following characteristics:

- EOLR supervision supporting N.O. or N.C. sensors
- 300–500 msec normal response with an option for fast (10–15 msec) response on loop A (first expansion zone)

Wireless Expansion:

Supports up to 24 wireless zones (less if using wired expansion zones).

- Requires the use of a 5881(5882 in Canada) type RF Receiver, as indicated below

Receiver Model	No. of Zones
5881L/5882L	Up to 8
5881M/5882M	Up to 16
5881H/5882H	Up to 24

- Requires the use of 5800 series wireless transmitters

Two Partitions

- Provides the ability to control two separate areas independently, each area functioning as if it had its own separate control
- Zones (including wireless) assignable to either partition 1 or 2
- Relay and Powerline Carrier device outputs assignable to either partition 1 or 2, or to both partitions
- Certain programmed system options, such as Entry/Exit delay and Subscriber Account number, programmed independently for each partition

UL In UL installations, the system may be configured as a single partition only.

Remote Keypads

Up to 4 of any of the following keypads may be used in each partition:

Fixed-Word Keypads: 4127*, 4137AD, 6127*, 6137, and 6128.

* These keypads cannot be used if the 4285 Voice Module is being used.

Alpha Keypads: 5137AD, 6139 (2-line alphanumeric displays)
6138 (1-line alphanumeric display).

! For programming from a keypad, a 5137AD or 6139 2-line Alpha keypad must be connected to partition 1 (but need not necessarily stay in the system).

Security Codes

- One installer code for entire system (user 1)
- One Master code for each partition (user 2)
- 12 secondary user codes for each partition (users 3–14)
- One baby-sitter code for each partition (user 15)
- One duress code for each partition (user 16)

Baby-sitter Code: A special code that can only be used to disarm the system if that particular code was used to arm it.

Duress Code: An emergency code which, when entered by *any* user to disarm or arm the system, will send a silent duress message to the central station.

Keypad Panic Keys

- Up to 3 programmable panic key functions are provided.
- Designated as Zones 95, 96, 99
- Activated by wired & wireless keypads
- Reported separately by partition, distinguished by subscriber ID number

Zone Monitor Feature

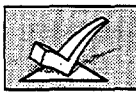
- The control will sense a high resistance in the loops on hard-wired zones 2–8 if it is present, and will display a trouble message (rather than an alarm) for the affected zone when the system is in the disarmed mode. This feature also prevents the system from being armed while this high resistance condition exists.

Exit Error False Alarm Prevention Feature

- Enables the system to determine the difference between a regular alarm and an alarm caused by leaving an Entry/Exit or Interior zone open after the exit delay expires. If not disarmed in time, an alarm will sound and an "Exit Error" report sent to the central station.
- An Exit Alarm condition will also occur if an Entry/Exit or Interior zone re-opens within 2 minutes after the end of an exit delay.

Optional Output Relays and Powerline Carrier Devices (X-10 type)

- Up to 4 relays using one 4204 Relay Module
- Up to 2 relays using one 4229 Zone/Relay Module
- Up to 8 Powerline Carrier devices (you must subtract the number of relay outputs actually used by the 4204 or 4229 modules, if used)
- Actions programmable to respond to zone activity or manual keypad entries



Powerline Carrier devices require the use of optional **4300 transformer** module instead of the supplied 1321/TF2 AC transformer.

Optional Keyswitch

- Supports the Ademco **4146 keyswitch** on basic hardwire zone 7. May be assigned to either partition.

Optional Voice Module

- Supports the Ademco **4285 Voice Module** on Partition 1 only.
- Provides access to the system via on premises or off-premises phones for arming, disarming, etc., plus control of relay outputs and Powerline Carrier devices.

Audio Alarm Verification Option

- Provides a programmable *Audio Alarm Verification* (AAV) option which can be used in conjunction with an output relay to permit voice dialog between an operator at the central station and a person at the premises.
- Requires the use of optional AAV unit, such as Eagle model 1241.

UL The AAV option may not be used in UL installations.

Optional Long Range Radio

- Allows all messages that have been programmed to go to the primary telephone number to be reported additionally to a 7720 PLUS or 7820 radio. *Check availability of these models.*

Built-in Telephone Line Monitoring Option

- The telephone line voltage can be monitored to supervise the phone line connection. **The panel must be connected to a proper earth ground for this feature to function.**
- The loss of the line can optionally cause a local display, or a display and trouble sound.

Event Logging

- Event Logging feature keeps a record of selected events in a history log (up to 48 events). All control and readout from the log is done via Ademco V-Link software **only**.

Alarm Output

- Provides a 12VDC, 2 AMP output that can drive the compatible sounders listed in the EXTERNAL SOUNDERS section (assumes a fully charged battery is connected).
- Steady output for Burglary/Panic, or pulsing output for Fire
- Uses current limiting circuitry for protection

Auxiliary Power Output

- Provides 12VDC, 600 mA maximum. Uses current limiting circuitry for protection.
- This output interrupts for smoke detector reset if 4-wire smoke detectors are used.

Programming

- Programmed options are stored in electrically erasable, non-volatile EEROM memory (information can be reprogrammed at any time and will not be lost in the event of a power loss).
- The system can be uploaded, downloaded, or controlled via an IBM compatible computer, V-Link software and a HAYES modem specified by Ademco.

Keypad programming consists of:

- Data field programming
- Interactive (menu) mode programming

For programming from a keypad, a 5137AD or 6139 2-line Alpha keypad must be connected to partition 1 (but need not necessarily stay in the system).

Communication Formats Supported

- Ademco Low Speed (Standard or Expanded)
- Sescoa/Radionics (Standard or Expanded)
- Ademco Express
- Ademco Contact ID

Zone Descriptors

You can assign Alpha descriptors to all zones (useful only when using Alpha keypads and/or the 4285 Voice Module).

AC Power Supply

Uses **1321/TF2,** 110VAC plug-in transformer with 16.5VAC 25VA output,, unless Powerline Carrier devices (ex. X-10 type) are used, in which case a **4300 transformer module** must be used.

Back-Up Battery

- Rechargeable (Gel type) 12VDC, 4AH minimum.

Section 2. INSTALLING THE CONTROL

This section provides instructions for mounting the control cabinet, and installing the cabinet lock (if used). Also included in this section are instructions for the following:

- Installing the main PC board.
- Mounting the 5881 (5882 in Canada) RF Receiver board in the cabinet (if used)
- Standard phone line connections.
- Installing the back-up battery in the cabinet.
- Connecting the AC transformer.
- Making earth ground connections.

Mounting the Cabinet

Mount the control cabinet to a sturdy wall using fasteners or anchors (not supplied), in a clean, dry area which is not readily accessible to the general public. Four mounting holes are provided at the back of the cabinet.

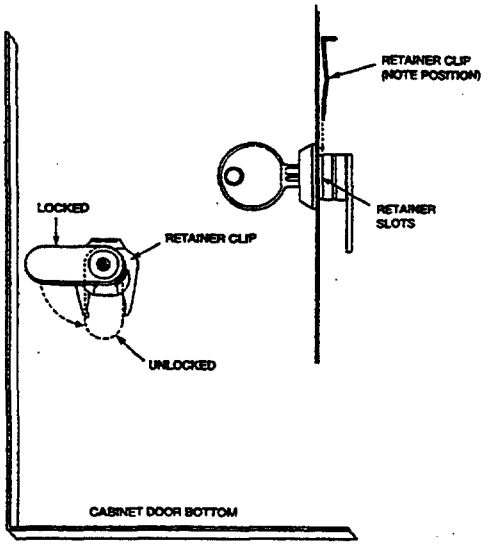
If an RF Receiver is being used and you intend to mount its PC board within the cabinet, note the following:

- Do not mount the cabinet on or near metal objects. This will decrease RF range and/or block RF transmissions from wireless transmitters.
- Do not locate the cabinet in an area of high RF interference (revealed by frequent or prolonged lighting of the LED in the receiver after it is operational (random flicker is OK).

Installing the Lock (if used)

Use an Ademco No. N6277 Cam Lock and No. N6277–1 Push-On Clip (Retainer Clip).

Note: The cabinet can be closed and secured *without* a lock by using 2 screws in the cover's edge.



1. Remove the cabinet door. *It is easily removable for servicing and is easily re-installed.*
2. Remove the lock knockout from the control cabinet door. Insert the key into the lock. Position the lock in the hole making certain that the latch will make contact with the latch bracket when the door is closed.
3. Hold the lock steady, and insert the retainer clip into the retainer slots. Position the clip as illustrated in order to permit easy removal.

Figure 1. Installing The Cabinet Lock

Before installing the cabinet's contents, remove the metal cabinet knock-outs required for wiring entry. Do not attempt to remove the knockouts after the circuit board has been installed.

Mounting The Control's Circuit Board Alone in The Cabinet (Fig. 2)

1. Hang two *short Black* mounting clips (provided) on the raised cabinet tabs (see Detail B in Fig. 2).
2. Insert the top of the circuit board into the slots at the top of the cabinet. Make sure that the board rests on the correct row (see Detail A).
3. Swing the base of the board into the mounting clips and secure the board to the cabinet with the accompanying screws (see Detail B in Fig. 2).

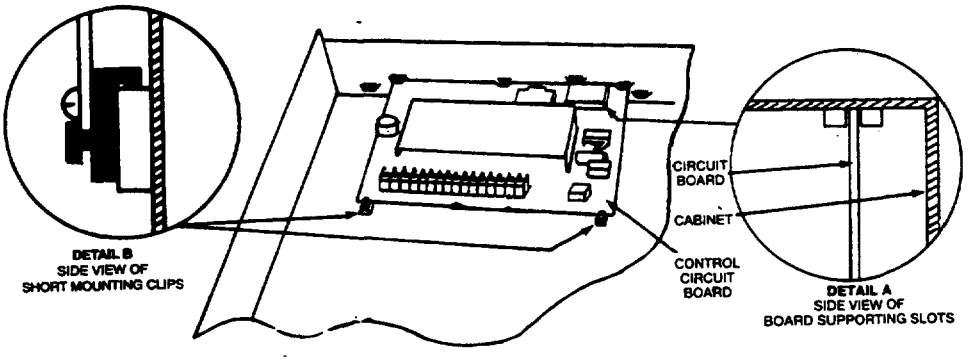


Figure 2. Mounting The PC Board

Mounting Control and RF Receiver Circuit Boards Together, in the Cabinet

1. Hang two *short* (black) mounting clips (provided with receiver) on the raised cabinet tabs, as shown in Detail B in Figure 3.
2. Insert the top of the receiver board (removed from its own case as described in *its* instructions) into the slots at the top of the cabinet, as shown in Detail A in Figure 3. Make sure that the board rests on the correct row of tabs, as shown.
3. Swing the base of the board into the mounting clips and secure it to the cabinet with the accompanying screws (see Detail B in Fig. 3).
4. Insert the top of the control's board into the slot in the clips and position two *long* (red) clips at the lower edge of the board (see Detail C).
5. Swing this board into place and secure it with two additional screws.
6. Insert grounding lugs (supplied with the receiver) through the top of the cabinet into the *left-hand* terminals of the antenna blocks (at the upper edge of the receiver board) and secure them to the cabinet top with the screws provided, as shown in Detail D.
7. Insert the receiver's antennas through the top of the cabinet, into the blocks' *right-hand* terminals, and tighten the screws.
8. Refer to the WIRELESS ZONE EXPANSION section for setup and wiring of the receiver.

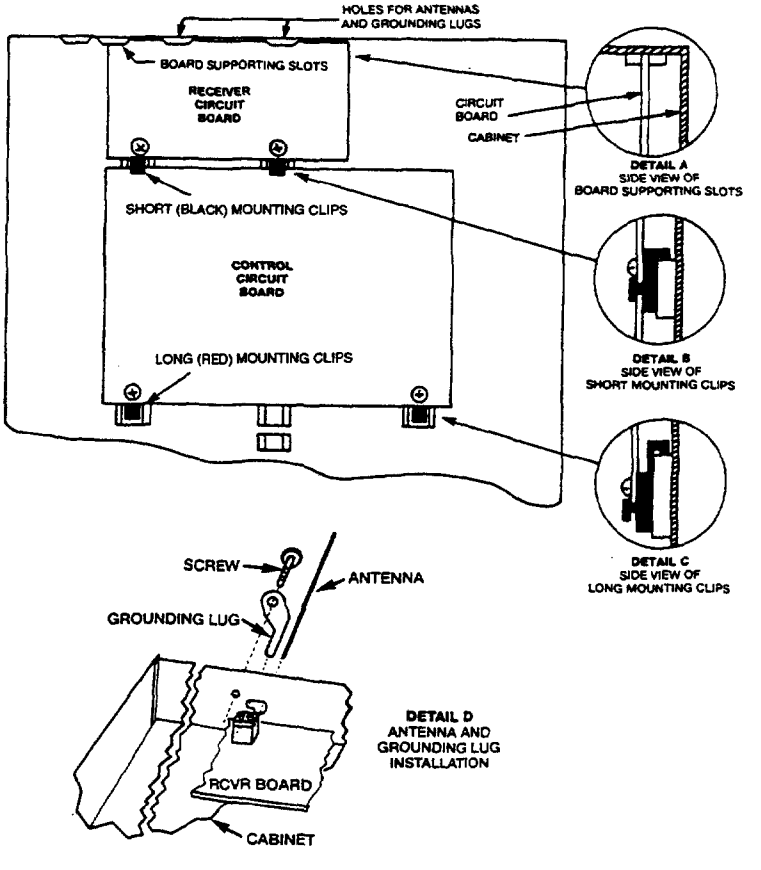


Figure 3. Mounting The PC Board And RF Receiver Together In The Cabinet

Standard Phone Line Connections

The wiring connections shown here are not applicable if the 4285 Voice Module is used. Refer to the 4285 Voice Module section for information regarding phone line connections, which are different than those shown here.

Incoming phone line and handset wiring is connected to the main terminal block (via a RJ31X jack) as follows (also see Figure 4):

Term. 21: Local Handset (TIP – Brown*)
Term. 22: Local Handset (RING – Gray*)
Term. 23: Incoming Phone Line (TIP – Green*)
Term. 24: Incoming Phone Line (RING – Red*)

* Colors of wires in Direct Connect Cord.

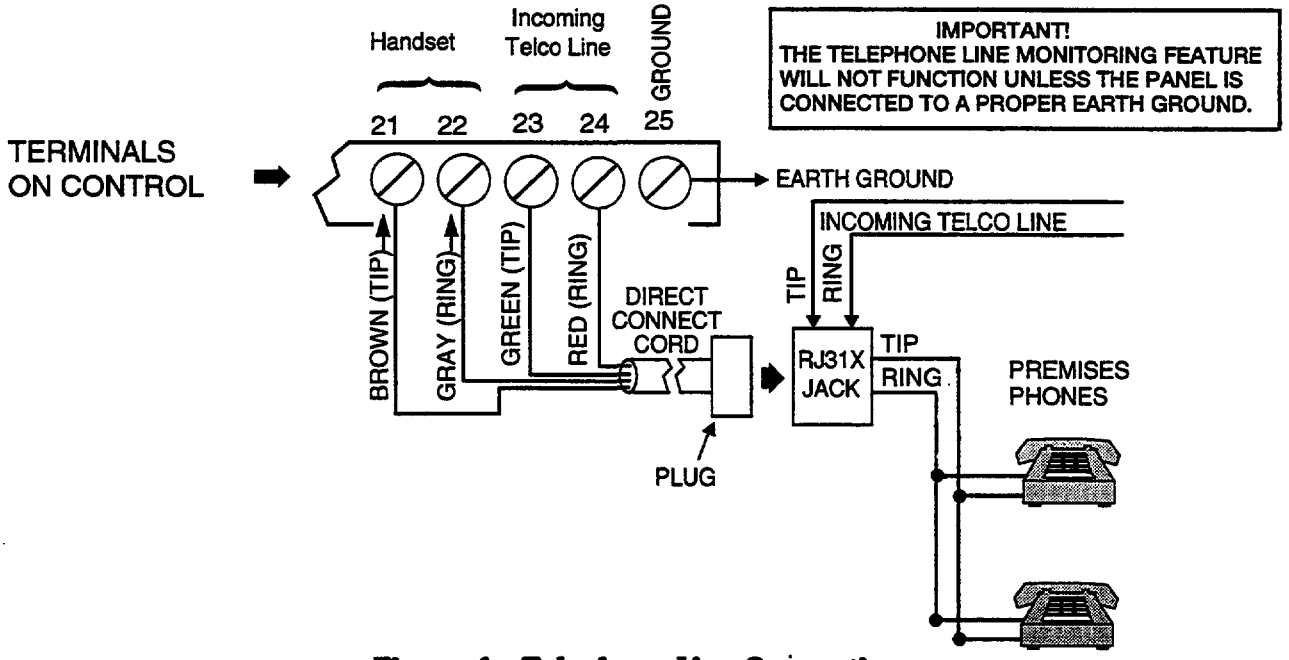


Figure 4. Telephone Line Connections

Wiring The AC Transformer

1321/TF2 Wire the 1321/TF2 transformer to terminals **1** and **2** on the control board. See wiring table below for wire gauge to use.

Caution must be taken when wiring the transformer to the control panel to guard against blowing the fuse inside the transformer (the fuse is non-replaceable).

4300 If you are going to use a 4300 transformer interface (required if Powerline Carrier devices are going to be used), connect the 4300 transformer's terminals as follows:

a. Terminals **1, 3** (AC), and **2** (Ground) to control board terminals **1, 2**, and **25,** respectively (see Figure 5). See table below for wire gauge to use.

WIRING TABLE	
Distance of Transformer From the Control Panel	**Wire Gauge To Use**
Up to 50 feet	# 20
50–100 feet	# 18
100-250 feet	# 16

Wiring to the AC Transformer must not exceed 250 feet using 16 gauge wire. The voltage reading between terminals 1 and 2 of the control must not fall below 16.5VAC or an "AC LOSS" message will be displayed.

Do not plug the transformer into the AC outlet until you are instructed to do so later in the manual.

b. Wire the other three terminals (Sync, Data, Com) on the 4300 transformer. Wires from these terminals must be connected to a 9-pin connector on the control board (using a 4142TR cable supplied with the 4300 transformer), as shown in Figure 5. These particular wires can be 24 gauge or larger, and can be run along with the AC and ground wires to the control panel.

The complete wiring for the 4300 transformer is also covered in *Section 8. RELAY OUTPUTS & POWERLINE CARRIER DEVICES.*

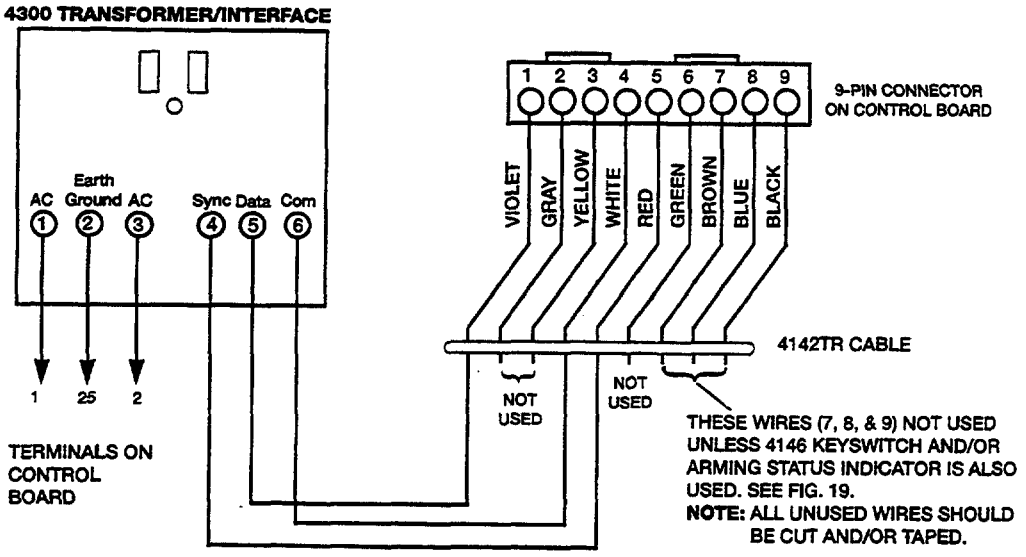


Figure 5. Connections of 4300 Transformer To The Control Board

Installing The Back-Up Battery

If necessary, refer to *Section 14. FINAL POWER UP* for information regarding battery size to use, etc.

Do not attach the connector cable to the battery terminals until you are instructed to do so later in the manual.

1. Place the 12-volt back-up battery in the control cabinet.
2. Attach Red and Black wires on the battery connector cable as follows:
   a. Red to the positive (+) battery terminal **on the control board** (see Summary of Connections Diagram for location, if necessary).
   b. Black to the negative (–) battery terminal **on the control board.**

UL Use a 4AH battery or larger for UL installations.

Earth Ground Connections

The designated earth ground terminal **(25),** must be terminated in a good earth ground for the lightning transient protective devices in this product to be effective. The following are examples of good earth grounds available at most installations:

Metal Cold Water Pipe: Use a non-corrosive metal strap (copper is recommended) firmly secured to the pipe to which the ground lead is electrically connected and secured.

AC Power Outlet Ground: Available from 3-prong, 120VAC, power outlets only. To test the integrity of the ground terminal, use a three-wire circuit tester with neon lamp indicators, such as the UL-Listed Ideal Model 61–035, or equivalent, available at most electrical supply stores.

Section 3. INSTALLING REMOTE KEYPADS

This section lists the wired keypads that may be used and provides instructions for wiring and mounting the keypads.

A preliminary check-out procedure is also provided to ensure that the connected keypads are functioning properly in the system.

Keypads That May Be Used

- Fixed-Word Display: 4137AD, 4127, 6127, 6128, 6137
- Alpha Display: 5137AD, 6138, 6139
- Up to 4 keypads in each partition (total of 8 in the system), independent of auxiliary power considerations (you may need to use an auxiliary power supply if the 600mA aux. output is exceeded)

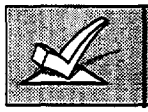
If you are going to use a 4285 Voice Module, you MUST use addressable keypads (4137AD, 5137AD, 6128, 6137, 6138, 6139) in the system, but set to the non-addressable mode (address 31).

Wiring To The Keypads

1. Determine wire gauge by referring to the wiring length/gauge chart below. Wire lengths/gauge for Partition 2 keypads should be determined separately from those keypads connected to Partition 1.

   For devices (Keypads, RF Receivers, Zone Expander , etc.) connected to a single 4-wire run, determine the current drawn by all units connected to the single wire run, then refer to the Wiring Run chart to determine the maximum wire length that can be safely used for each wire size. Current draw for all devices can be found in the SPECIFICATIONS AND ACCESSORIES section.

   Note: Refer to "Auxiliary Device Current Draw Worksheet" in *Section 14. FINAL POWER UP* for current draw for all keypads.

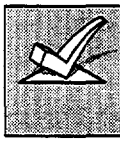


Maximum wire lengths for any device that is homerun to the control can also be determined from the chart, based on the current draw of that device alone.

Wiring Run Chart For Devices* Drawing Aux Power From The Control (12V+ & 12V–)

	TOTAL CURRENT DRAWN BY ALL DEVICES CONNECTED TO A SINGLE WIRE RUN				
Wire Size	**50 mA or less**	**100 mA**	**300 mA**	**500 mA**	**600 mA**
#22	500 ft (152m)	250 ft (76m)	80 ft (24m)	50 ft (15m)	42 ft (13m)
#20	750 ft (228.6m)	380 ft (116m)	130 ft (39.6m)	80 ft (24m)	67 ft (20.4m)
#18	1300 ft (396m)	650 ft (198m)	220 ft (67m)	130 ft (39.6m)	115 ft (35m)
#16	1500 ft (457m)	1000 ft (305m)	330 ft (100.5m)	200 ft (70m)	170 ft (52m)

* Includes Keypads, RF Receivers, Zone Expander/Relay Units, or 4285 Voice Module.



The length of all wire runs for both partitions combined must not exceed 1500 feet (457m) when unshielded quad conductor cable is used (750 feet if shielded cable is used). This restriction is due to the capacitive effect *on the data lines* when quad cable is used.

2. Run field wiring from the control to the keypads (using standard 4-conductor twisted wire cable using the wire gauge determined in step 1).

3. Connect remote Keypads for Partition 1 to terminals 4, 5, 6, and 7 on the control board, as shown in Figure 6.
4. Connect remote Keypads for Partition 2 to the 4-pin connector on the control board (see the Summary of Connections diagram for location of the 4-pin connector for partition 2).

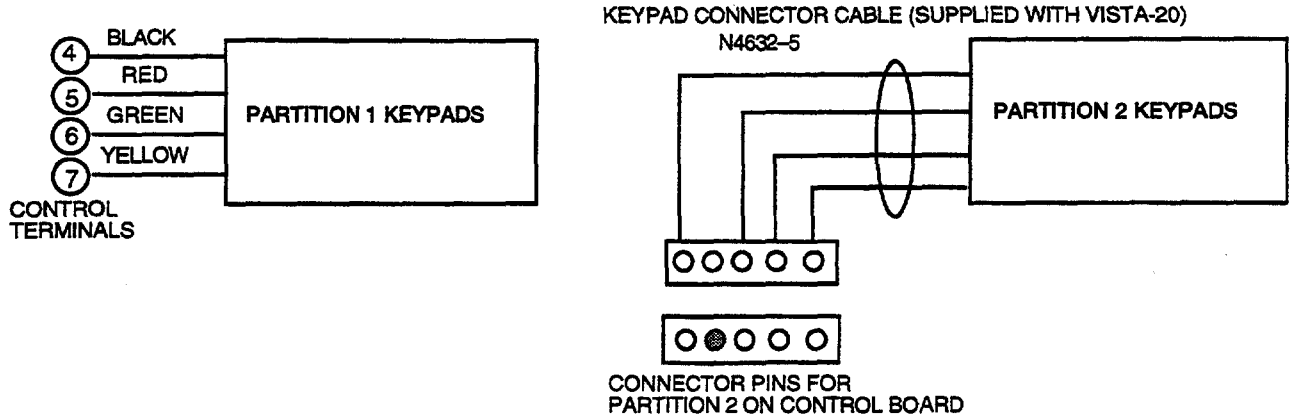


Figure 6. Keypad Connections To The Control Board

Mounting the Keypads

1. **Make sure addressable type keypads** (4137AD, 5137AD, 6128, 6137, 6138, and 6139) are set to non-addressable mode (address 31), which is the factory default setting. Refer to the instructions provided with the keypad for address setting procedure.
2. **Mount the keypads** at a height that is convenient for the user. Refer to the instructions provided with the keypad for mounting procedure.

   You can either surface mount or flush mount keypads (using an appropriate Trim Ring Kit: 5137TRK or 6139TRK). Refer to the mounting instructions and template included with the keypad and/or trim ring kit for specific information.

Using a Supplementary Power Supply to Power Additional Keypads

The control provides 600mA for powering keypads (up to a maximum of 4 per partition) and other devices from the auxiliary power output. The backup battery will supply power to these keypads in the event that AC power is lost.

When the control's auxiliary power load for all devices exceeds 600 mA, you can power additional keypads from a regulated, 12VDC power supply (e.g., 487–12 supplies 12V, 250mA; 488–12 supplies 12V, 500mA). Use a UL Listed, battery-backed supply for UL installations.

The 487–12/488–12 power supplies have a backup battery which can power these keypads in the event of AC power loss.

Keypads powered from supplies which do not have a backup battery will not function when AC power is lost. Therefore, be sure to power at least one keypad in each partition from the Control's auxiliary power output.

Connect the additional keypads as shown in Figure 7, using the keypad wire colors shown. Be sure to observe the current ratings for the power supply used.

Make connections directly to the screw terminals as shown in Figure 7. Make no connection to the keypad blue wire (if present).

Be sure to connect the negative (–) terminal on the Power Supply unit to terminal 4 (AUX –) on the control.

[redacted]

If you want to check that the system is working before connecting field wiring from zones and devices, do the following:

1. Temporarily connect a 2000 ohm end-of-line resistor across each of the basic hard-wire zones 1–8, as shown in the Summary of Connections diagram.

   Without actual zone wiring or EOL resistors connected, the keypads in each partition of the system will not display the "Ready" message.

2. Power up the system temporarily by plugging the AC transformer (previously wired to the control) into a 120VAC outlet.

3. **Busy – Standby** (Alpha keypads) or **dI** (Fixed-word keypads) will be displayed.

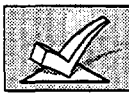
   After approximately 1 minute*, the green "READY" LED (or "POWER" LED on some types of keypads) should light, and the word **READY** (Fixed-word keypads), or **DISARMED...READY TO ARM** (Alpha keypads) should be displayed.

   * To bypass the 1-minute delay, press **#** plus **0**.

   If the "Ready" display does not appear on any of the keypads in the system (in either of the partitions), or a "Not Ready" message is displayed, check the keypad wiring connections, and make sure each of the 8 basic hard-wired zones has a 2000 ohm resistor connected across its terminals.

4. When you get the proper "Ready" displays on the keypad(s), the system is functioning properly at this point.

   Do not remove the EOL resistors until you are ready to make connections to the hard-wired zones, to allow for testing later in the manual.



If an OC or OPEN CIRCUIT is present on the keypad, data from the control is not reaching the keypad. Please check the wiring.

Section 4. MECHANICS OF PROGRAMMING

This section provides information on how programming is performed in this system. It will enable you to understand how to enter and exit the programming mode, and how to program the data fields and the user-friendly interactive modes (*56, *80, *81, *82, *83). We therefore urge you to read and understand the following before proceeding with the installation.

The following program fields **must** be programmed (as required) before doing any zone programming. Refer to the end of this section for instructions on programming these fields.

*22. RF SYSTEM
*25. WIRED ZONE EXPANSION
*30. KEYSWITCH ENABLE

In addition, the following fields must be programmed before completing the installation. Explanations of these fields are found in *Section 19. DATA FIELD DESCRIPTIONS.*

*20. INSTALLER CODE
*21. QUICK ARM ENABLE
*23. FORCED BYPASS **(must be disabled for UL installations, enter "0").**

General Programming Information

Characteristics for each installation are stored in non-removable, electrically erasable, non-volatile EEROM memory. These must be programmed for the particular installation to establish its specific alarm and reporting features.

It is possible to program the system at any time, even at the installer's premises prior to the actual installation. Simply apply power temporarily to the control and then program the unit as desired.

Important Note: **You cannot enter the programming mode unless <u>both</u> partitions are disarmed.**

There are two programming modes: data field programming and interactive (menu) mode programming. Data field programming is used for setting various system options and interactive programming is used for programming zone information, programming relay outputs, and for learning transmitter serial numbers.

To program the system, you must use a 5137AD or 6139 2-line Alpha keypad connected to the Partition 1 keypad terminals on the control (4, 5, 6, & 7). **Also, both partitions must be disarmed.** The Alpha keypad need not necessarily remain in the system after programming.

Programming can also be performed remotely from the installer's office/home, using an IBM personal computer, a modem, and V-Link downloading software. See the *REMOTE PROGRAMMING AND CONTROL (DOWNLOADING)* section.

Entering Program Mode

You may use one of the following methods:

a) Press both the [*] and [#] keys at the same time **within 50 seconds after power is applied to the Control,** or

b) After power up, enter the Installer code **(4 1 1 2) + 8 0 0.**

This method is disabled if you exit the program mode using *98 instead of *99. See "Exiting Program Mode" paragraph later in this section.

If a different Installer code is subsequently programmed, use it instead of 4112 to gain access to the Programming mode.

Following entry into program mode, data field *20 will be displayed (this is the first field in the system). The system will now accept entries for field *20.

Programming a Data Field

1. Press **[*] plus Field No.** (for example, *21), then make the required entry.
2. When you have completely programmed a data field, the keypad will "beep" three times and then automatically display the next data field in sequence. To go to a different field, press [*] plus the desired field No.

3. If the number of digits that you need to enter in a data field is less than the maximum digits available (for example, the phone number field), enter the desired data, then press * and the next data field number to be programmed.

4. If you try to enter a non-existent field, the keypad will display **EE or Entry Error**. Simply re-enter [*] plus a valid field number.

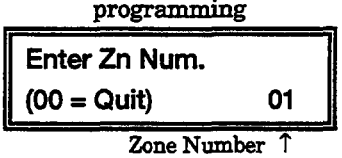
Reviewing a Data Field/Erasing an Entry in a Data Field

Press [#] plus **Field No.** Data will be displayed for that field number. **No changes will be accepted in this mode.**

To delete an entry in a field, press [*] plus **Field No.** + **[*].** (Applies only to fields *40–*46, and *94).

Interactive Mode Programming (*56, *80, *81, *82 and *83)

Typical prompt displayed during interactive mode programming



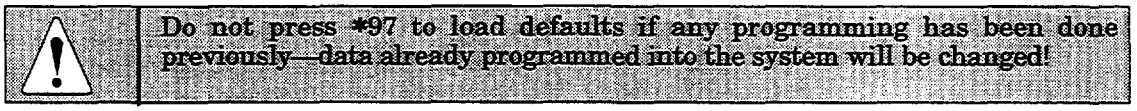
Press [*] plus **interactive mode No.** (for example, *56). The Alpha keypad will display the first of a series of prompts requesting entries.

A detailed procedure (with displays of prompts) is provided in those sections where programming in the interactive mode is to be performed.

Interactive Mode	Used To Program
*56 Zone Programming	Zone characteristics, report codes, alpha descriptors and serial numbers
*80 Relay Programming	4229 or 4204 Relay modules, or Powerline Carrier devices
*81 Zone List Programming	Zone Lists for relay/powerline carrier activation
*82 Alpha Programming	Zone alpha descriptors
*83 Serial No. Add/Delete	5800 series transmitter serial numbers

Loading Factory Defaults

To load the factory defaults, enter the programming mode, press *97, then exit the programming mode.


Do not press *97 to load defaults if any programming has been done previously—data already programmed into the system will be changed!

***96** resets the Subscriber Account number and CSID in preparation for an initial download.

Programming System Setup Fields

The following program fields **must be** programmed before doing any zone programming.

***22 RF SYSTEM** ☐

Enter 1 if 5881/5882 RF receiver is being used; enter 0 if no receiver is being used. Default is **0** (none).

***25 WIRED ZONE EXPANSION** ☐

Use this field to select the type of expansion unit being used, as follows: 0 = none; 1 = 4219; 2 = 4229; 3 = 4204. Default is **0.**

***30 KEYSWITCH ENABLE** ☐

This field must be enabled (enter 1) if using a keyswitch. The keyswitch must be connected to zone 7, which can then not be used for any other purpose. Default is **0** (no keyswitch).

Note: If keyswitch is enabled, in menu mode *56 the Zone Type (ZT) for zone 7 will show "77", and will not be accessible for programming.

Exiting the Programming Mode

***99** allows re-entry into the program mode using **Installer Code + 8 0 0.**

***98** inhibits re-entry into the programming mode using the Installer code.

Section 5. BASIC HARD-WIRED ZONES 1–8

This section provides general information for the hard-wired zones in the system, plus specific instructions for installing 2-wire smoke detectors, 4-wire smoke/combustion detectors, and 2-wire latching type glass break detectors. Also included is a procedure for programming and checking out the hard-wired zones.

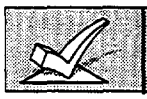
Installing the Hard-Wired Zones

Common Characteristics for Zones 1–8

- Can be assigned to any partition
- EOLR supervised zones supporting both open circuit and closed circuit devices
- As many 4-wire smoke detectors as can be powered from Aux Power on the control (zones 2–7)
- Programmable for 10, 350, or 700 msec response
- 350 msec (default) should be used for most standard contacts. For vibration type contacts, 10 msec is more suitable

Wiring Burglary and Panic Devices To Zones 1–8

1. Connect sensors/contacts to the hard-wired zone terminals (8 through 20). See the Summary of Connections diagram .
2. Connect closed circuit devices in series in the high (+) side the loop. The EOL resistor must be connected in series with the devices, following the last device. See the Summary of Connections diagram.
3. Connect open circuit devices in parallel across the loop. The 2,000 ohm EOLR must be connected across the loop wires *at the last device.*



If the EOLR is not at the end of the loop, the zone will not be properly supervised, and the system may not respond to an open circuit on the zone.

High Resistance Supervision on Hard-Wired Zones 2–8

- Special supervision in the control senses high resistance on hard-wired zone loops 2–8, causing a warning "CHECK" display with the affected zone number to occur when the system is in the disarmed state. *The system cannot be armed when this display is present.* If the system is in the armed state when the high resistance condition occurs, no display will take place until the system is disarmed.

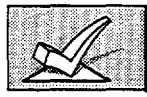
Wiring 2-Wire Smoke Detectors To Zone 1

1. Connect 2-wire smoke detectors across zone 1 terminals 8 (+) and 9 (–). Observe proper polarity when connecting the detectors.
2. If an EOL resistor is presently connected across zone 1 terminals, remove it. **The EOL resistor must be connected across the loop wires at the last detector.**

UL

In UL installations, only zone 1 may be used as a Fire zone. In addition, an Ademco Model 610–7 must be used as an End-of -Line resistor at the last detector.

3. See "Programming Hard-Wired Zones" in this section for programming procedure.



The alarm current provided by zone 1 will support only one smoke detector in the alarmed state.

"Verify" Operation of 2-Wire Smoke Detectors in Zone 1

The control panel will "verify" any alarm by resetting the smoke detectors after the first alarm trigger, and then waiting 90 seconds for a second alarm trigger. If the smoke detector or thermostat does not trigger again, the control will disregard the first trigger, and no alarm signal will occur. This feature eliminates false alarms due to electrical or physical transients.

Note for units that report as Rev 3 or earlier to the downloader: With these units, it is possible for a transient condition to cause an alarm due to the fact that they will not wait for a second trigger, as indicated above.

Turning Off Fire Alarm Sounding

You can turn off Fire alarm sounding by pressing the OFF key on any keypad or other arming/disarming device in that partition. To clear the "memory of alarm" and to reset the detector's alarm, enter the security code plus OFF again.

Compatible 2-Wire Smoke Detectors	
Detector Type	**Device Model #**
Photoelectric w/heat sensor, direct wire	System Sensor 2300T
Photoelectric, direct wire	System Sensor 2400
Photoelectric w/heat sensor, direct wire	System Sensor 2400TH
Photoelectric w/B401B base	System Sensor 2451
Photoelectric w/heat sensor & B401Bbase	System Sensor 2451TH
Ionization, direct wire	System Sensor 1400
Ionization w/B401B base	System Sensor 1451
Photoelectric duct detector w/DH400 base	System Sensor 2451
Ionization duct detect. w/DH400 base	System Sensor 1451DH

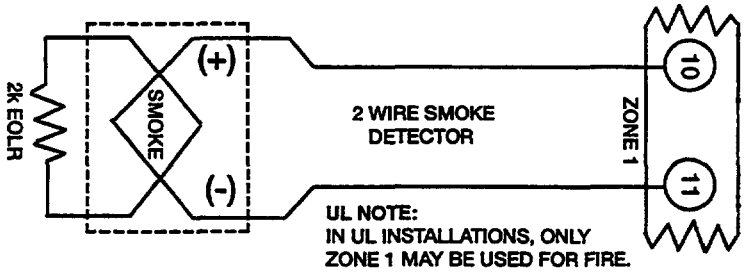
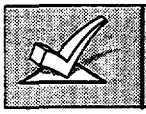


Figure 8. 2-Wire Smoke Detector Connected to Zone 1

Wiring 4-Wire Smoke/Combustion Detectors on Zones 2–7

The system will support as many 4-wire detectors as can be powered from Auxiliary Power on the control on zones 2–7. Refer to the detector's instructions for complete details regarding its proper installation and operation.

1. Connect 12 volt power for the detectors from Auxiliary Power terminals 4 and 5, (which will interrupt power for fire alarm reset). Observe proper polarity when connecting detectors.
2. Connect detectors (including heat detectors, if used) across terminals of the zone selected (zones 2–7 may be used). All detectors must be wired in parallel.



Remove 2000 ohm EOL resistor if connected across the selected zone terminals. You must connect the EOL resistor across the loop wires at the last detector.

3. To supervise power, we recommend the use of a System Sensor No. A77-716B supervisory module.

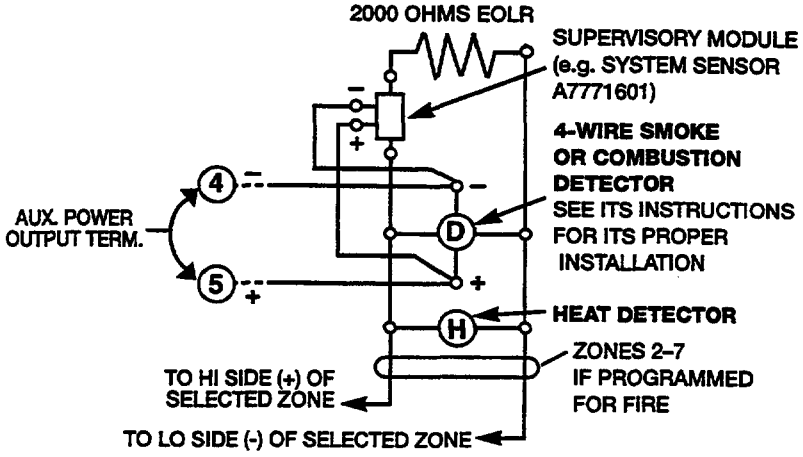


Figure 9. 4-wire Smoke Detector Connections (Zones 2–7)

COMPATIBLE 4-WIRE SMOKE/COMBUSTION DETECTORS	
1412	*System Sensor*, 4-wire ionization products of combustion detector
2412	*System Sensor*, 4-wire photoelectric smoke detector
2412TH	*System Sensor*, 4-wire photoelectric smoke detector w/135º F (57º C) heat detector
A77-716B	*System Sensor*, EOL relay module (supervisory module for wired 4-wire fire zone).
2112/24T	*System Sensor* low-profile 4-wire photoelectric smoke detector w/135º F (57º C) heat detector

Wiring 2-Wire Latching Glass Break Detectors On Zone 8

Use zone 8 for connection of compatible 2-wire latching-type glass break detectors.

After an alarm, the first code + OFF turns off the siren and disarms the system; the second code + OFF clears the memory of alarm and resets the glassbreak detector.

1. Connect all detectors in parallel across zone 8 (terminals **19** and **20**).

Remove 2000 ohm EOL resistor if connected across the selected zone terminals. You must connect the EOL resistor across the loop wires at the last detector.

Compatible Glass Break Detectors

Use detectors that meet the following ratings:

Standby Voltage:	5VDC–13.8VDC
Standby Resistance:	Greater than 20k ohms (equivalent resistance of all detectors in parallel)
Alarm Resistance:	Less than 1.1k ohms (see note below)
Alarm Current:	2 mA–10 mA
Reset Time:	Less than 6 seconds

The IEI 735L series detectors have been tested and found to be compatible with these ratings. You can use up to fifty IEI 735L detectors, connected in parallel.

You should note that only one detector in the alarmed state can be supported by the alarm current provided by zone 8.

You can use detectors which exceed 1.1k ohms in alarm, provided they maintain a voltage drop in alarm of less than 3.8 volts.

Do not use other N.O. or N.C. contacts when using glass break detectors on zone 8. Other contacts may prevent proper glass break detector operation.

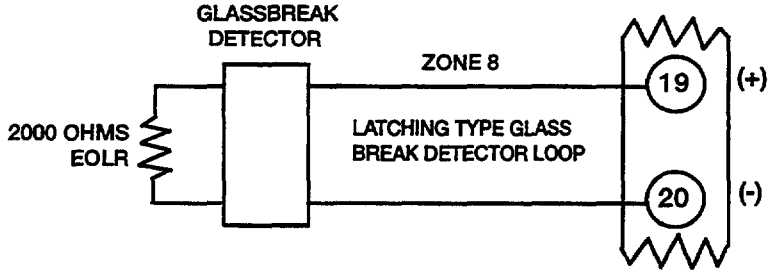
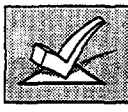


Figure 10. Glass Break Detector Connections To Zone 8

Programming Hard-Wired Zones

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 + 0 + 0.**
   Note that it is not possible to enter the programming mode if Partition 2 is in an armed state.



Data fields *22 RF SYSTEM, *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required before continuing.

3. **Press *56.** Note that this is an interactive programming mode. You will use it to program zone numbers, zone types, partition numbers, alarm report codes, and to program response times for hard-wired zones.

Enter Zn Num.	
(00 = Quit)	01

Zone Number ↑

Upon entering *56 mode, this prompt will be displayed. Enter the first zone number that you wish to program (or [0][0] to exit zone programming). If you are starting with zone 2, enter "02". Press * to continue.

Typical summary display

Zn	ZT	P	RC	In	RT
02	03	1	00	HW:	1

A summary display will appear, showing the present status of that zone's programming.
Zn = zone number;
ZT = zone type;
P = partition to which zone is assigned;
RC = report code for that zone;
In = input type of zone;
RT = response time for that zone.
Values displayed are currently programmed values.

If it is programmed satisfactorily, press [#] to back up one step and enter the next zone number, if desired.

If you want to change a zone's programming, press [*]. A prompt for Zone Type will appear.

↓ Zone Number

02 Zone Type	
Perimeter	03

Zone Type ↑

Each zone must be assigned a zone type, which defines the way in which the system responds to faults in that zone. A detailed explanation of each zone type is provided in "Response Type Definitions" in *Section 18. ZONE RESPONSE TYPE DEFINITIONS.*

Enter the desired zone type code, as listed below.

00 = Zone Not Used	07 = 24 Hr Audible
01 = Entry/Exit #1	08 = 24 Hr Aux
02 = Entry/Exit #2	09 = Fire (W/verif.)*
03 = Perimeter	10 = Interior w/Delay
04 = Interior Follower	23 = No Alarm Response
05 = Trouble Day/Alarm Night	24 = Silent Burglary
06 = 24 Hr Silent	

* The "verification" feature is only active when zone type 09 is assigned to hard-wired zone 1.

When the display shows the zone type you want, press [*] to continue.

You must enter "00" as the zone type for any hard-wired zones that are not used.

02 Partition	1

Enter the partition to which this zone is assigned, "1" or "2". The factory default is partition 1. Press [*] to continue.

02 Report Code	
1st 03 2nd 12	00

The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C". Refer to *Section 17. SYSTEM COMMUNICATION* for complete information on report codes, if necessary.

Enter the desired report code and then press [*] to continue.

02 Response Time	1

Enter the desired response time for the zone. The factory default is "1".
Selections available are: "0" = 10 msec, "1" = 350 msec, or "2" = 700 msec.

Press [*] to continue.

Typical summary display

Zn	ZT	P	RC	In	RT
02	03	1	3C	HW:	1

A summary display will appear, showing the data for the zone that was just programmed.

If it is programmed satisfactorily, press [*] to continue.

Program Alpha?	
0 = No 1 = Yes	0

The next request is to enter Alpha descriptors for the zones. The entry may be done now (enter 1) or may be done at a later time using *82 interactive mode (enter 0). We recommend that the entry of Alpha descriptors be done using *82 mode.

See Section 15. ALPHA DESCRIPTION PROGRAMMING for specific procedure

Enter Zn Num.	
(00 = Quit)	03

Enter next zone number ↑

If "0" (no) was entered above, the system will return to the Enter Zone Number prompt. Proceed with the programming for the next zone, as indicated previously.

When you have programmed all the hard-wired zones satisfactorily, exit *56 interactive mode at the **Enter Zn Num.** prompt by pressing: **[0] [0] ***

Then exit the programming mode by keying ***99**.

Proceed to the check-out procedure that follows.

Check-Out Procedure For Hard-Wired Zones

After installation of all hard-wired devices is completed, *each* partition of the security system should be checked, as follows.

1. Make certain that all devices and sensors connected to the hard-wired zones are not in a faulted state. Doors and windows with contacts should be closed, PIRs should be covered (use a cloth to mask them temporarily if necessary).
2. Plug in the AC Transformer if you have not already done so..
3. With all hard-wired zones intact, the Alpha keypad connected to the system should display:

   DISARMED
   READY TO ARM.

   If the following is displayed,

   DISARMED Press *
   to show faults

   press the [*] key to display the faulted zone(s). Restore any faulted zone(s) as necessary (also make sure that you have connected a 2000 ohm EOL resistor across the terminals of unused zones).

   When the DISARMED...READY TO ARM message is displayed, you can proceed to the next step.
4. Fault and then restore every contact or sensor on each zone individually to ensure that it is being monitored by the system. Each time a zone is faulted, the keypad should display the number of the faulted zone. When each zone is restored, the READY TO ARM message should appear again.

   If some hard-wired zones have been assigned to partition 1 and others to partition 2, you will need to observe the keypad in the appropriate partition as each zone in that partition is faulted and restored.
5. When you get the proper displays on the keypad(s), the hard-wired zones in the system are functioning properly.
6. Unplug the AC transformer.

Section 6. WIRED ZONE EXPANSION

This section provides information regarding the use of expansion modules for expanding the number of wired zones in the system, the modules that can be used and their wiring connections, plus a procedure for programming the wired expansion zones.

Installing Zone Expansion Units

You can add an additional 8 wired EOLR zones to the basic control's 8 zones, for a total of 16 wired zones, by using a **No. 4219 Wired Expansion Unit**, or **4229 Wired Expansion/Relay Unit**.

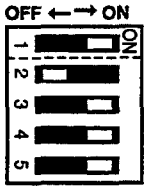
Location
- You can mount an expansion unit within the control cabinet if space permits. Otherwise, mount the unit outside the cabinet.

Supervision
- Units are supervised against removal. Keypads will display **CHECK** and zone **09** if a zone expander is disconnected.
- Units have tamper protection for security when mounted outside of the cabinet.

Zone Information
- Assign zone numbers 10–17 for the eight wired expansion loops (designated A to H). You can program these zones individually (in *56 interactive mode) for Partition 1 or 2. See "Programming Wired Expansion Zones" later in this section.

Connections and Set-Up

1. Connect the 4219 or 4229 module to the control's keypad terminals (see diagram below).



2. **Set the 4219 or 4229's DIP switch for device address "1"** (switch 2 "OFF" and switches 3, 4, 5 "ON"). Switch 1 determines expansion zone A's response time ("ON" = normal response, "OFF" = fast response). For location of the DIP switch in the unit, see the diagram below (location of DIP switch for both units is in the same location).

   For additional information, see instructions supplied with the 4219 and 4229.

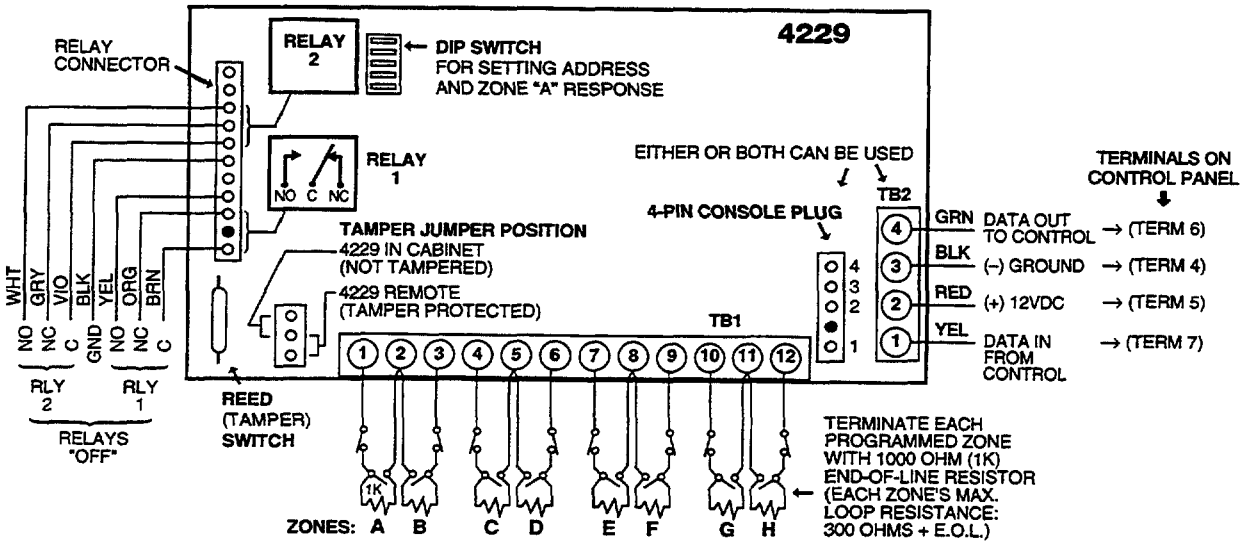

4229
RELAY CONNECTOR
RELAY 2
DIP SWITCH FOR SETTING ADDRESS AND ZONE "A" RESPONSE
RELAY 1
NO C NC
EITHER OR BOTH CAN BE USED
TERMINALS ON CONTROL PANEL
TB2
4-PIN CONSOLE PLUG
GRN DATA OUT TO CONTROL → (TERM 6)
BLK (-) GROUND → (TERM 4)
RED (+) 12VDC → (TERM 5)
YEL DATA IN FROM CONTROL → (TERM 7)
TAMPER JUMPER POSITION
4229 IN CABINET (NOT TAMPERED)
4229 REMOTE (TAMPER PROTECTED)
TB1
WHT GRY VIO BLK YEL ORG BRN
NO NC C GND NO NC C
RLY 2
RLY 1
RELAYS "OFF"
REED (TAMPER) SWITCH
TERMINATE EACH PROGRAMMED ZONE WITH 1000 OHM (1K) END-OF-LINE RESISTOR (EACH ZONE'S MAX. LOOP RESISTANCE: 300 OHMS + E.O.L.)
1K
ZONES: A B C D E F G H

Figure 11. Wiring Connections, 4219 & 4229 (4229 shown)

Programming Wired Expansion Zones

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 + 0 + 0.**

Program fields *22 RF SYSTEM, *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required before continuing.

3. **Press *56.** Note that this is an interactive programming mode. It is used to program zone numbers, zone types, partition numbers, and alarm report codes for all zones that are going to be used.

Enter Zn Num.
(00 = Quit) 10

↑ Zone Number

Enter the first zone number that you wish to program (or [0][0] to exit zone programming). Normally, you will be starting with zone 10, so enter "10". Press [*] to continue.

Zn	ZT	P	RC	In	L
10	00	–	–	–:	–

↑ Entry for Zone 10 shown

A summary display will appear, showing the present status of that zone's programming.

Zn = zone number;
ZT = zone type;
P = partition to which zone is assigned;
RC = report code for that zone;
In = input type of zone (AW for Aux Wired).
L = Loop (not used for wired expansion zones)

Values in the summary display are the currently programmed values.

To start programming zone 10, press [*]. A prompt for Zone Type will appear.

↓ Zone Number

10 Zone Type
Perimeter 03

Entry for Zone Type 03 shown ↑

Each zone must be assigned a zone type, which defines the way in which the system responds to faults in that zone. A detailed explanation of each zone type is provided in "Response Type Definitions" in *Section 18. ZONE RESPONSE TYPE DEFINITIONS.*

Enter the desired zone type,as listed below.

00 = Zone Not Used	07 = 24 Hr Audible
01 = Entry/Exit #1	08 = 24 Hr Aux
02 = Entry/Exit #2	09 = Fire
03 = Perimeter	10 = Interior w/Delay
04 = Interior Follower	23 = No Alarm Response
05 = Trouble Day/Alarm Night	
06 = 24 Hr Silent	24 = Silent Burglary

When the display shows the zone type you want, press [*] to continue.

10 Partition
1

Enter the partition to which a zone is to be assigned. Enter "1" or "2". The default is partition 1.

Press [*] to continue.

10 Report Code	
1st 03 2nd 12	3C

The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C". Refer to *SYSTEM COMMUNICATION* section for complete information on report codes, if necessary.
Enter the report code and then press [*] to continue.

Typical summary display

Zn	ZT	P	RC	In	L
10	03	1	03	AW:	-

A summary display will appear, showing the data for the zone that was just programmed. Note that AW indicates an auxiliary wired (zone expansion module) zone.

If it is programmed satisfactorily, press [*] to display the next prompt.

Program Alpha?	
0 = No 1 = Yes	0

For all zone types, the next request is to enter Alpha descriptors for the zones. The entry may be done now (enter 1) or may be done at a later time using *82 interactive mode (enter 0). We recommend that the entry of Alpha descriptors be done later using *82 interactive menu mode.

See Section 15. *ALPHA DESCRIPTION PROGRAMMING* for specific procedure.

Enter Zn Num.	
(00 = Quit)	11

Enter next zone number ↑

If "0" (No) was entered above, the system will display a prompt for entry of the next wired expansion zone number. Proceed with the programming for the next zone, as indicated previously.

When you have programmed all the wired expansion zones satisfactorily, exit *56 interactive mode at the **Enter Zn Num.** prompt by pressing [0] [0] *.

Then exit the programming mode by keying ***99**.

Proceed to the check-out procedure that follows.

Check-Out Procedure For Wired Expansion Zones

After you have completed installation of all devices, all expansion zones in *each* partition of the security system should be checked as follows:

1. Make certain that all devices and sensors connected to the wired expansion zones are not in a faulted state. Doors and windows with contacts should be closed, PIRs should be covered (use a cloth to mask them temporarily if necessary).
2. With all zones intact (including hard-wired zones), the Alpha keypad connected to the system should display :

   DISARMED
   READY TO ARM.

   If the following is displayed,

   DISARMED Press *
   to show faults

   press the [*] key to display the faulted zone(s). Restore any faulted zone(s) as necessary (also make sure that you have connected a 1000 ohm EOL resistor across the terminals of unused expansion zones on the 4219 or 4229 module).

   When the READY TO ARM message is displayed, you can proceed to the next step.
3. Fault and restore every contact or sensor in each expansion zone individually to ensure that it is being monitored by the system. Each time a zone is faulted, the keypad should display the number of the faulted zone (as programmed by you just previously in *56 mode). When each zone is restored, the READY TO ARM message should appear again.

   If some wired expansion zones have been assigned to partition 1 and others to partition 2, you will need to observe the keypad in the appropriate partition as each zone in that partition is faulted and restored.
4. When you get the proper displays on the keypad(s), the wired expansion zones in the system are functioning properly.
5. Unplug the AC transformer.

If a "CHECK 09" message appears on the display, data from the control is not reaching the zone expander module. Check your wiring and DIP switch settings.

Section 7. WIRELESS EXPANSION (5800 SYSTEM)

This section provides instructions for installing 5800 series wireless receivers and transmitters and includes a procedure for programming wireless zones.

General Information

In addition to its basic wired zones, the control supports up to 24 wireless zones using an appropriate 5881 (5882 in Canada) type RF receiver. The actual number of zones supported also depends on whether you are using a wired zone expander module.

For example: If you are using only four of the wired expansion loops, a 5881H (5882H in Canada) RF Receiver could add 20 RF zones to the system, using any zone numbers in the range of **18–63**, for a combined total of 24 wired and wireless expansion zones.

However, if you are *not* using wired zone expansion, the 5881H/5882H RF receiver could add 24 wireless zones to the system, using any zone numbers in the range of **10–63**.

The receiver can detect signals from wireless transmitters within a nominal range of 200 feet.

RF Receiver	No. of Zones
5881L/5882L	up to 8
5881M/5882M	up to 16
5881H/5882H	up to 24

Receiver Supervision

The receiver is supervised, and a trouble report will be generated. **CHECK** and zone **09** will also be displayed.

a) If communication between the panel and the receiver is interrupted.

or

b) If no valid RF signals from at least one *supervised* wireless transmitter are received within 12 hours.

House Identification

If you are using a 5827 or 5827BD Wireless Keypad with the system, you must program a House ID Code (01–31) in field ***24** to establish proper communication, and the keypad must be set to the same ID.

DIP switch setting information for a 5827 is given later in this section. The 5827BD is keypad programmable.

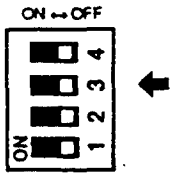
Installing the 5881/5882 Receiver

RF System Installation Advisories

Disregard the following advisories if the receiver is mounted in the control cabinet as described in Section 2.

1. Place the RF Receiver in a high, centrally located area for best reception.
2. Do not locate the receiver or transmitters on or near metal objects. This will decrease range and/or block transmissions.
3. Do not locate the receiver in an area of high RF interference (revealed by frequent or prolonged lighting of the LED in the receiver. . .random flicker is OK).
4. The RF receiver must be at least 10 feet from any remote keypads to avoid interference from the microprocessors in those units.

Installation and Setup of the 5881/5882 Receiver



1. Set the receiver's DIP switch for device address "0", as described in its instructions (all switches to the right. . . "off").
2. Mount the receiver. The RF receiver can detect signals from transmitters within a nominal range of 200 feet. Take this into consideration when determining mounting location.
3. Connect the receiver's wire harness to the control's keypad terminals (4, 5, 6, and 7). Plug the connector at the other end of the harness into the receiver.
4. Refer to the installation instructions provided with the receiver for further installation procedures regarding antenna mounting, etc.

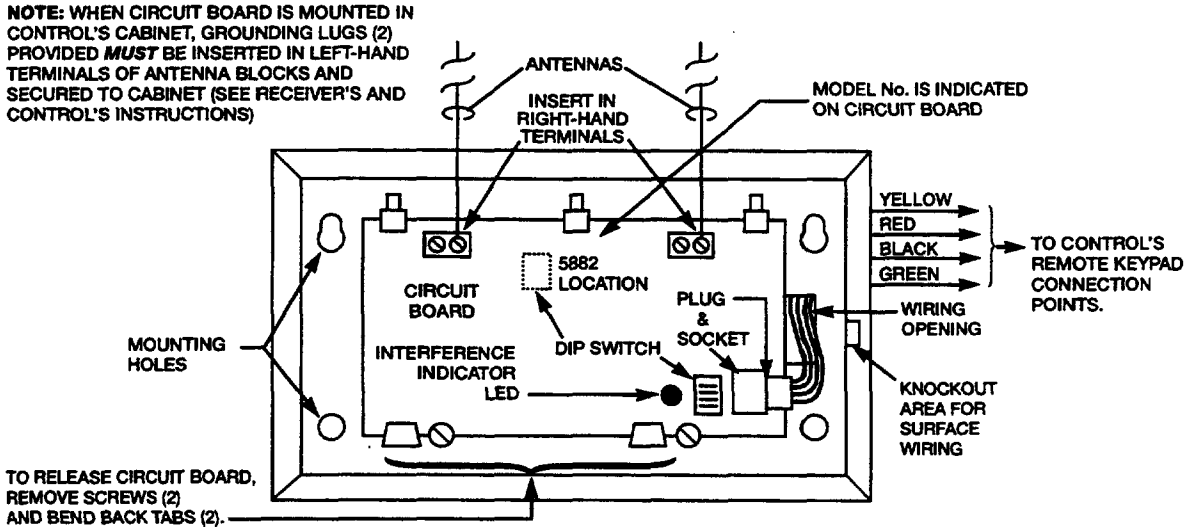

NOTE: WHEN CIRCUIT BOARD IS MOUNTED IN CONTROL'S CABINET, GROUNDING LUGS (2) PROVIDED MUST BE INSERTED IN LEFT-HAND TERMINALS OF ANTENNA BLOCKS AND SECURED TO CABINET (SEE RECEIVER'S AND CONTROL'S INSTRUCTIONS)
ANTENNAS
INSERT IN RIGHT-HAND TERMINALS
MODEL No. IS INDICATED ON CIRCUIT BOARD
YELLOW
RED
BLACK
GREEN
TO CONTROL'S REMOTE KEYPAD CONNECTION POINTS.
5882 LOCATION
CIRCUIT BOARD
PLUG & SOCKET
WIRING OPENING
MOUNTING HOLES
INTERFERENCE INDICATOR LED
DIP SWITCH
KNOCKOUT AREA FOR SURFACE WIRING
TO RELEASE CIRCUIT BOARD, REMOVE SCREWS (2) AND BEND BACK TABS (2).

Figure 12. 5881/5882 RF Receiver (cover removed)

Installing the 5800TM Module

Installation of this module is necessary only if you are using one or more 5827BD Wireless Bi-directional keypads.

Note: The 5827BD will only receive signals for partition 1.

Mounting the 5800TM Module

The 5800TM must be located next to the RF receiver (between one and two feet from the receiver's antennas). The 5800TM must not be installed within the control cabinet. Mount the unit using its accompanying mounting bracket.

5800TM Wiring Connections

Connect the 5800TM to the control panel's keypad connection terminals, using the supplied connector with flying leads, as follows:

WIRE	TERMINAL ON CONTROL
BLACK (Ground):	Terminal 4
RED (+12VDC)	Terminal 5
GREEN (Data to Control)	Terminal 6
YELLOW (Data from Control)	Terminal 7
BLUE: Not Used	

Do not cut any of the jumpers on the 5800TM when using it with the Vista-20.

For additional information, refer to the 5800TM's instructions.

5800 Series Transmitters

General

5800 series transmitters have built-in serial numbers that must be "learned" by the system using the *56 or *83 interactive mode, or input to the control via the downloader. 5800 series transmitters (except 5827 described separately) do not have DIP switches.

Each transmitter's zone number is programmed into the system in *56 mode. Some transmitters, such as the 5816 and 5817, can support more than one "zone" (referred to as loops or inputs). On the 5816 for example, the wire connection terminal block is loop 1, the reed contact is loop 2. Each loop must be assigned a different zone number.

UL The 5816 and 5817 transmitters do not have EOL supervision of their loop wiring. Therefore, for UL Household Burglary installations, the loop wiring may not exceed 3 feet.

For button transmitters (RF "keys"), such as the 5803 and 5801, you must assign a unique zone number to each individual button used on the transmitter. Each button on the transmitter also has a pre-designated loop or input number, which is automatically displayed.

Programming an RF House ID (01–31) in field *24 **is necessary only if using 5827 or 5827BD wireless keypads.** An RF House ID is not necessary for other 5800 series transmitters and the entry should be left at "00" (default) in those cases.

The 5827 reports low battery status as zone "00."

Transmitter Supervision

Except for some transmitters that may be carried off-premises (5802, 5802CP, 5803, and 5827, and 5827BD), each transmitter is supervised by a check-in signal that is sent to the receiver at 70–90 minute intervals. If at least one check-in is not received from each *supervised* transmitter within a 12-hour period, the "missing" transmitter number(s) and "CHECK" will be displayed.

The supervision for a particular transmitter in the system that may also be carried off the premises (5801, 5802MN) may be turned off by learning it as a "UR" (unsupervised RF) type, as described later.

5800 series transmitters have built-in tamper protection and will annunciate as a "CHECK" condition if covers are removed.

Transmitter Input Types

All of the transmitters described have one or more unique factory assigned input (loop) ID codes. *Each of the inputs requires its own programming zone* (e.g., a 5803's three inputs require three programming zones). See APPENDIX A toward the end of this manual.

Transmitters can be learned as one of the following types:

Type	Description
"RF" (Supervised RF)	Sends periodic check-in signals, as well as fault, restore, and low battery signals. The transmitter must remain within the receiver's range.
"UR" (Unsupervised RF)	Sends all the signals that the "RF" Type does, but the control does not supervise the check-in signals. The transmitter may therefore be carried off-premises.
"BR" (Unsupervised Button RF)	These only send fault signals. They do not send low battery signals until they are activated. The transmitter may be carried off-premises.

Transmitter Battery Life

Do not install batteries in wireless transmitters until ready to learn, as will be indicated in the procedure that follows under "Programming the Receiver and Transmitters." After learning, batteries need not be removed.

- Batteries in the wireless transmitters may last from 4–7 years, depending on the environment, usage, and the specific wireless device being used. Factors such as humidity, high or low temperatures, as well as large swings in temperature may all reduce the actual battery life in a given installation. The wireless system can identify a true low battery situation, thus allowing the dealer or user of the system time to arrange a change of battery and maintain protection for that given point within the system.
- Some transmitters (e.g., 5802, 5802CP, and 5803) contain long-life but non-replaceable batteries, and no battery installation is required. At the end of their life, the complete unit must be replaced (and a new serial number learned by the control).
- Button type transmitters (ex. 5801, 5802, 5802CP & 5803) should be periodically tested for battery life.

Programming the Receiver and Transmitters

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 terminals, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following:
   Installer code (4 1 1 2) + 8 + 0 + 0.

Program fields *22 RF SYSTEM, *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required before continuing.

3. ***24. RF HOUSE ID CODE** [1]

   The House ID identifies wireless keypads.

   If a 5827 or 5827BD Wireless keypad is to be used, a House ID code MUST be entered (01–31), and the keypad should be set to the same ID. If no wireless keypad is to be used, enter "00".

   Partition 2 House ID is automatically set for one number higher than the ID number entered for Partition 1. Therefore, if a wireless keypad is also used in partition 2, the House ID for partition 1 must not be higher than 30.

4. **Press *56.** (Zone Programming Mode)

   Use this mode to program zone numbers, zone types, partition numbers, alarm report codes, and to learn RF devices for all wireless expansion zones that are going to be used in the system.

```
Enter Zn Num.
(00 = Quit)        20
```

Zone 20 entered ↑

Enter the zone number that you wish to program. As an example, zone 20 is shown entered.

You can assign zone *numbers* to transmitters as follows:

- Use zone numbers in the range of 10–63 if a 4219 or 4229 is NOT being used in the system.
- Use zone numbers in the range of 18–63 if a 4219 or 4229 IS ALSO being used in the system, *even if some of the expansion unit's wired loops are not being used.*
- The actual number of zones that can be assigned to wireless is 24, but will be less if a wired expansion module is being used (see "General Information" at the beginning of this section).

Note: If using a button for arming, the zone number assigned to the button is the "user number" reported to the central alarm station, i.e., arm button = zone x, disarm button = zone y.

After entry of zone number, press [*] to continue.

IMPORTANT:
If wired expansion zones are not presently being used in the system, but if there is any possibility that they may be added at some future date, you should assign zone numbers in the range of 18–63 for wireless transmitters.
The reason for this is as follows: wired expansion zone numbers are restricted to 10–17; if you assign zone numbers between 10 and 17 for wireless, and subsequently add wired expansion zones, all serial numbers for wireless transmitters in the 10–17 zone number range will be lost. and any transmitters assigned to those numbers will become inoperative in the system. These particular transmitters will then have to be assigned different zone numbers (in the range of 18–63) and their serial numbers re-learned.

```
Zn ZT P RC  In: L
20 00 - -   -: -
```

A summary display will appear, showing the status of that zone's program.

If it is programmed satisfactorily, press [#] to back up one step and enter another zone number, if desired.

If the zone is not programmed, or you want to change it, press [*]. A prompt for Zone Type will appear.

↓ Zone Number

```
20  Zone Type
Perimeter        03
```

Entry for Zone Type 03 shown ↑

Each zone must be assigned a zone type, which defines the way in which the system responds to faults in that zone.

Enter the zone type (or change it, if necessary). Zone types that you can assign are listed below. A detailed explanation of each zone type is provided in *Section 18. ZONE RESPONSE TYPE DEFINITIONS.*

Enter the desired zone type code as listed below.

00 = Zone Not Used
01 = Entry/Exit #1
02 = Entry/Exit #2
03 = Perimeter
04 = Interior Follower
05 = Trouble Day/Alarm Night
06 = 24 Hr Silent
07 = 24 Hr Audible
08 = 24 Hr Aux
09 = Fire
10 = Interior w/Delay
20 = Arm–Stay*
21 = Arm Away*
22 = Disarm*
23 = No Alarm Response (EX: Relay activation)
24 = Silent Burglary

* These are special zone types used with 5800 series wireless pushbutton units which will result in arming the system in the STAY or AWAY mode, or disarming of the system, depending on the selection made.

A button programmed for these functions will report zone number as the user number to the central station.

When the display shows the zone type you want, press [*] to continue.

```
20  Partition
                 1
```

Enter the partition to which this zone is assigned, "1" or "2".

Press [*] to continue.

```
20  Report Code
1st 03  2nd 12  3C
```

Enter the report code.

See *Section 17. SYSTEM COMMUNICATIONS* for complete information on report codes, if necessary.

Press [*] to continue.

```
20 Input Type
RF Trans.      RF: -
```

For a 5800 system's transmitters, "RF" is initially displayed.

The **5800 Series Transmitters Table**" at the end of this programming section shows the "Input Type" to be entered for each transmitter.

Enter the appropriate Input Type for the transmitter being programmed.

3 = supervised RF transmitter (RF type)
4 = unsupervised RF transmitter (UR type)
5 = RF button type transmitter (BR type)

Press [*] to continue.

```
20 Learn S/N ?
0 = No  1 = Yes  0
```

At this point, install a battery in the transmitter to be learned (not applicable to transmitters with permanently built-in batteries such as 5802/5802CP and 5803). See note on next page.

The transmitter serial number can be learned here or via *83 mode, or entered via the downloader). We recommend you use *83 mode if you are only changing a wireless transmitter, and wish to maintain the other zone parameters.

TRANSMIT NOW

If "yes" is selected in response to the "Learn S/N?" prompt, this display will appear.

Fault and restore the transmitter to be learned. A single beep will be heard at the keypad. Wait 6–8 seconds. Fault and restore the transmitter a second time. Two beeps will be heard, indicating acceptance into the system.

Note: If a **long** beep occurs, it means that the particular transmitter input has previously been registered in the system.

Mark the zone number on the transmitter. If the transmitter is a multi-button type, each of the buttons used must assigned to a different zone, and each of the buttons must be learned.

After learning, batteries can remain in the learned transmitters. To prevent possible problems, make sure these transmitters are not faulted while other transmitters are being learned. Wireless motion detectors should be covered or placed face down to prevent transmissions.

Typical summary display

Zn	ZT	P	RC	In:	L
20	03	1	3C	RF:	2

↑ Accepted Input (Loop) Number

After a transmitter has been learned, a summary of the programmed values for the selected zone will be displayed.

If all is okay, press [*].

Program Alpha?
0 = No 1 = Yes 0

Alpha descriptors for the zones can be done now (enter 1) or may be done at a later time using *82 interactive mode (enter 0). We recommend that the entry of Alpha descriptors be done using *82 mode.

Refer to *Section 15. ALPHA DESCRIPTION PROGRAMMING* for specific procedure.

Enter Zn Num.
(00 = Quit) 21

If you entered "0" (no) in response to the **Program Alpha?** prompt, the system will display a prompt for entry of the number for the next wireless expansion zone to be programmed.

Proceed with the programming of the next zone, as indicated previously.

- *In *56 mode, at the summary line for each zone, the entered values can be checked.* Press [#] repeatedly to move to earlier entries. Press [*] to move to later entries again.
- *Zone entries can be reviewed* by pressing [#][5][6]. At the **Enter Zone Num.** prompt, enter the specific zone number to be reviewed plus [*]. This provides a summary display of that zone's programming. Changes cannot be made here.

  To review each zone's summary display sequentially (02, 03, 04, 05, etc.), press [*] to advance from one zone to the next.

  To exit the review mode, press [0][0][*]. **Field?** will be displayed. Enter [*] plus next field number if desired, or exit the programming mode as indicated in the next step.

5. Exit the programming mode by keying ***99**.
6. Use the transmitter Sniffer mode to test that all transmitters have all been programmed properly, as indicated next.

Using The Transmitter Sniffer Mode

1. Enter Installer **code (4112) + # + 3.** This initiates a procedure that will provide a check that all transmitters have been properly programmed.
2. The keypad will display all zone numbers of wireless units programmed into the system. Fault each transmitter in turn, causing each one to send a signal, **rather than let each transmitter send an automatic supervisory signal.** An automatic supervisory signal that is received in this mode will be misinterpreted as a low battery signal.*

   As the system receives a signal from each of the transmitters, the zone number of that transmitter will **disappear** from the display. The transmitters may be checked upon installation, or in an installed system.

   ***Note*:** A transmitter not "learned" will **not** turn off its zone number.
3. When all transmitters have been checked, exit the sniffer mode immediately by keying **Installer code (4112) + OFF.**

* If one or more low battery messages do appear after exiting the sniffer mode, do one of the following:

A. Fault each zone that is showing a low battery, then enter a disarm sequence (Code + OFF) to clear the low battery display, **or...**

B. Enter and exit the programming mode. This will clear any low battery signals from memory.

To Either Temporarily Or Permanently Remove A Zone From The System.

1. Enter the programming mode and press [*][5][6].
2. Enter the zone number and press [*]. A summary display will appear.
3. Press [*] again.

20 Zone Type
Not Used 00

4. The **"Zone Type"** prompt will appear. Enter [0][0]. This sets the zone type to "Not Used". Press [*] to continue.

20 Delete Zone?
1 = Yes 0 = No

5. The next prompt will ask whether you want to delete the zone. "Yes" will permanently remove the zone from the system, while a "No" will disable it but retain all data except the original zone type. You can then go back to this zone later and put back an active Zone Type to re-enable it.

A serial number that has been learned for a 5800 system will not be deleted if the zone is temporarily disabled by answering "No" to the prompt above.

If only the physical transmitter is to be removed or changed (i.e., its serial number deleted, as when replacing a unit that has a non-removable battery), it can be done in *56 Mode, but we recommend using the ****83 mode*** (in a later section of this manual).

Deleting a Transmitter Serial Number From a Zone in *56 Mode

A more detailed procedure for adding, deleting, or changing serial numbers of wireless transmitters is provided in *Section 16. USING *83 MODE TO ADD, DELETE, OR CHANGE SERIAL NUMBERS.*

Abbreviated Procedure:

1. In the programming mode, press [*][5][6] to enter Zone Programming mode.
2. Then enter the zone number, and press [*] repeatedly until the cursor is under the **"Learned RF Input (L)"** position. This is the specific input (loop) or button on the transmitter that has been learned for that zone.
3. Enter a [0] at this point, then press [*].
4. A prompt **"Delete S/N?"** will appear.
   Enter "Yes" to delete the existing serial number from the system.
   Note that the other programmed values for that zone will not be deleted. This will allow you to re-instate a new transmitter in its place.
5. A display for the next zone number will appear. To exit, enter **"00 *"**
6. Press *99 to exit the programming mode.

5800 Series Transmitters Table

Also refer to APPENDIX A toward the end of this manual for transmitter input loops and button locations.

Model	Description	Input Type And Special Notes
5801	**Wireless Panic Transmitter**	• Unit has 4 pushbuttons, each with a unique Input (loop) code. • Each pushbutton must be assigned to a zone. • "3" for RF (supervised), or "4" for UR (unsupervised). Note: Input loop (button) No. 4 must always be used.
5802 5802CP	**Pendant Belt Clip (Personal Emergency) Transmitters**	"5" for BR (button type transmitter).
5802MN	**Miniature Personal Emergency Trans.**	"3" for RF (supervised), or "4" for UR (unsupervised).
5803	**Wireless Key Transmitter**	• Has 3 pushbuttons, each with a unique input (loop) code. • Each pushbutton must be assigned to a zone. "5" for BR (button type transmitter). *Note: All buttons must be assigned the same Input Type.*
5806 5807	**Wireless Photoelectric**	"3" for RF (supervised). At the "TRANSMIT NOW" prompt, fault the detector as follows: a) On many detectors, press the special test switch (not test button) provided for faulting the detector (see detector's instructions) then release. **Note:** With some detectors, two contacts must be shorted to fault the detector. Disengage detector's cover and swing cover open – these contacts are on the PC board near a blue jumper (see detector's instructions). Momentarily short these contacts with a small screwdriver. A single keypad beep will occur when the detector is faulted the first time. b) Wait 6–8 seconds, then press and release the test switch (or momentarily short the contacts) again. 2 beeps will occur if the control has accepted the input code, and a summary display showing the learned input (loop) No. will appear.
5816	**Door/Window Transmitter**	• Has two unique input (loop) zones: one for a wired closed circuit contact loop, and the other for a built-in reed switch (used in conjunction with a magnet). Either or both may be used. "3" for RF (supervised).
5817	**Multi-Point Universal Transmitter**	• Has three unique input (loop) codes: one for a DIP switch settable "Primary" contact loop, and the others for two "Auxiliary" closed circuit contact loops. • The "Primary" loop may be set for: a) Repeating or Single Transmission, b) Normally Open or Normally Closed Circuit c) Slow or Fast Response d) 3-Minute or No Transmission Inhibit. **DIP Switches:** Set all DIP switches to the OFF position when learning the serial number. "3" for RF (supervised). *Note: All loops must be assigned the same Input Type.*
5818	**Recessed Magnetic Contact Transmitter**	"3" for RF (supervised).
5849	**Glassbreak Detector/Transmitter**	"3" for RF (supervised).
5890	**PIR Detector/ Transmitter**	"3" for RF (supervised). **The cover must be on the unit when learning the serial number.**

† When "learning" a transmitter's ID code(s), any PIR that may be in the vicinity (and is not being learned) should be covered with a cloth, tissue, etc., to prevent activation of that PIR.

To be sure reception of the transmitter's signal at the proposed mounting location is adequate, perform a Go/No Go test.

Go/No Go Test Mode

The Go/No Go tests will verify adequate RF signal strength from the proposed transmitter location, and allow you to reorient or relocate transmitters if necessary, before mounting the transmitters permanently.

This mode is similar to the transmitter test mode , except that the wireless receiver gain is reduced. This will enable you to make sure that the RF signal from each transmitter is received with sufficient signal amplitude when the system is in the normal operating mode.

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the system, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter **installer code (4112) + # + 4.** For multi-partition systems, make sure all partitions are disarmed before entering this mode.
3. Once you have placed transmitters in their desired locations and the approximate length of wire to be run to sensors is connected to the transmitter's screw terminals (if used), **fault each transmitter.** *Do not conduct this test with your hand wrapped around the transmitter as this will cause inaccurate results.*

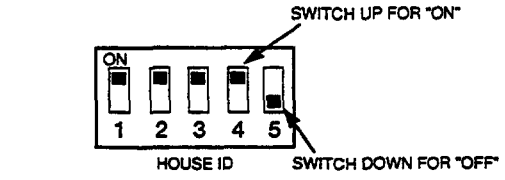
   Note: On button type transmitters whose buttons have been set to Arm Away, Arm Stay, or Disarm, pressing a button will take the system out of the Go/No Go Test mode and cause that action.

   a. The keypad will beep three times to indicate signal reception and display the approriate zone number.

   b. If the keypad does not beep, reorient or move the transmitter to another location. Usually a few inches in either direction is all that is required.
4. If each transmitter produces the proper keypad response when it is faulted, you can then permanently mount each of the transmitters according to the instructions provided with them.
5. Exit the Go/No Go test mode by entering: **Installer code (4112) + OFF.**
6 Unplug the AC transformer.

Setting DIP switches on the 5827 Transmitter(s)

A 5827 transmitter must be set to the selected House ID, using its DIP switches. If a 5827 is also being used in partition 2, you must set its DIP switch to an ID that is one number higher than the one in partition 1 (e.g., if House ID selected is 11, set the 5827 in partition 1 to "11", and the 5827 in partition 2 to "12".



SHOWN SET FOR HOUSE ID# 30

5827 Wireless Keypad DIP Switch Table

HOUSE ID	DIP SWITCH POSITIONS 1	2	3	4	5
1	OFF	OFF	OFF	OFF	On
2	OFF	OFF	OFF	On	OFF
3	OFF	OFF	OFF	On	On
4	OFF	OFF	On	OFF	OFF
5	OFF	OFF	On	OFF	On
6	OFF	OFF	On	OFF	On
7	OFF	OFF	On	On	On
8	OFF	On	OFF	OFF	OFF
9	OFF	On	OFF	OFF	On
10	OFF	On	OFF	OFF	On
11	OFF	On	OFF	On	On
12	OFF	On	On	OFF	OFF
13	OFF	On	On	OFF	On
14	OFF	On	On	On	OFF
15	OFF	On	On	On	On
16	On	OFF	OFF	OFF	OFF

HOUSE ID	DIP SWITCH POSITIONS 1	2	3	4	5
17	On	OFF	OFF	OFF	On
18	On	OFF	OFF	On	OFF
19	On	OFF	OFF	On	On
20	On	OFF	On	OFF	OFF
21	On	OFF	On	OFF	On
22	On	OFF	On	On	OFF
23	On	OFF	On	On	On
24	On	On	OFF	OFF	OFF
25	On	On	OFF	OFF	On
26	On	On	OFF	On	OFF
27	On	On	OFF	On	On
28	On	On	On	OFF	OFF
29	On	On	On	OFF	On
30	On	On	On	On	OFF
31	On	On	On	On	On

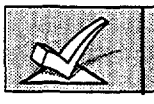
Section 8.
RELAY OUTPUTS & POWERLINE CARRIER DEVICES

Relay/Powerline Carrier Device Basics

Relays and Powerline Carrier devices (ex. X-10 brand devices) are programmable switches that can be used to perform many different functions. They can be used to turn lights on and off, control sounders, or for status indications. In this system, each device must be programmed as to how to act (ACTION), when to activate (START), and when to deactivate (STOP). Each of these is described below, and in the programming procedure for *80 and *81 interactive modes that are provided at the end of this section.

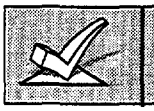
The control supports a total of 8 output devices in the following configurations:

- One 4204 relay module (4 relays) and 4 Powerline Carrier devices.
- One 4229 zone/relay module (2 relays) and 6 Powerline Carrier devices.
- Up to 8 Powerline Carrier devices (8 minus the number of output relays used).



A 4204 cannot be used if a 4219 or 4229 is already being used.

The 4204 and 4229 modules provide Form C (normally open and normally closed) contacts. Powerline Carrier devices are controlled by signals sent through the electrical wiring at the premises via a 4300 transformer. Therefore, if using Powerline Carrier Devices, a 4300 transformer *must* be used in place of the regular system transformer.



Once a device is programmed into the system, the user sees no difference between a Powerline Carrier device or a relay output device.

In *80 and *81 interactive modes, a series of keypad prompts will request entries for programming of the Relay outputs and/or Powerline Carrier devices used in the system. Refer also to "OUTPUT RELAYS/POWERLINE CARRIER DEVICES WORKSHEET FOR *80 AND *81 INTERACTIVE MODES" in the blank programming form.

4204 and 4229 Relay Modules

4204/4229 Setup

The 4204 or 4229 unit can be mounted either remotely or in the control panel. The following steps should be taken to properly set up the 4204 or 4229:

1. **Connect the 4204/4229 to the control's Partition 1 remote keypad terminals** (4–7), using the connector supplied with the 4204 and 4229. Use standard 4-conductor twisted cable for long wiring runs.
2. **Set the 4204/4229's DIP switch for a device address of "1"** (switch 2 "OFF" and switches 3, 4, 5 "ON"). Switch 1 determines the unit's cover tamper response ("ON" = disabled, "OFF" = enabled).
3. **Connect the desired field wiring** to the unit's relay contact terminals.

Supervision

- 4204 and 4229 modules are supervised against removal. **CHECK** and zone **09** will be displayed if a module is disconnected from the control's terminals (4, 5, 6, & 7).

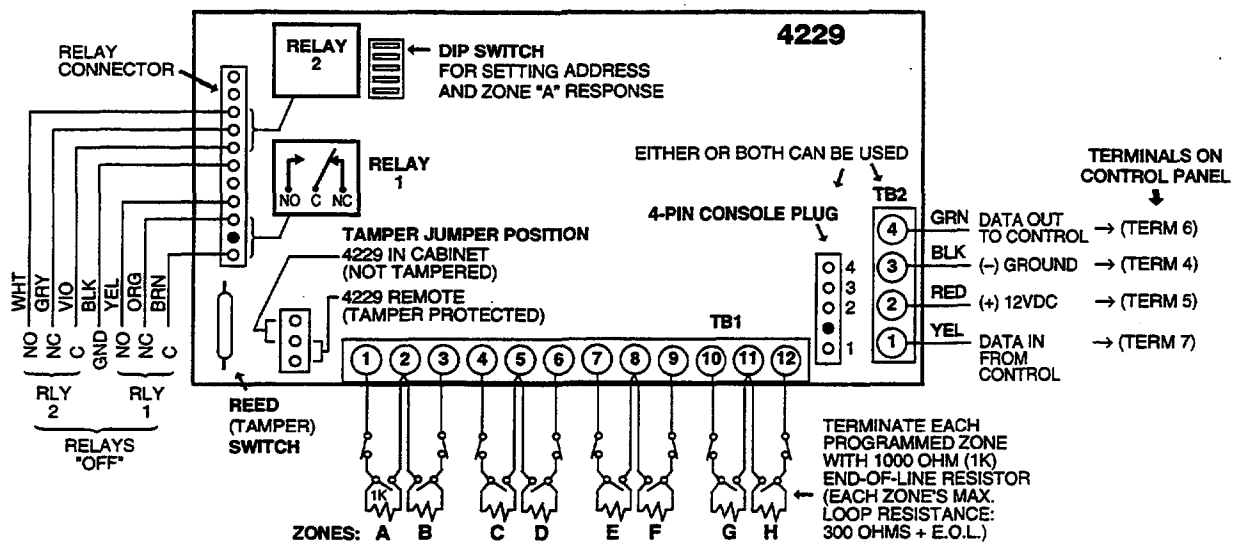

4229
RELAY CONNECTOR
RELAY 2
DIP SWITCH FOR SETTING ADDRESS AND ZONE "A" RESPONSE
RELAY 1
NO C NC
EITHER OR BOTH CAN BE USED
TERMINALS ON CONTROL PANEL
TB2
4-PIN CONSOLE PLUG
GRN DATA OUT TO CONTROL → (TERM 6)
BLK (-) GROUND → (TERM 4)
RED (+) 12VDC → (TERM 5)
YEL DATA IN FROM CONTROL → (TERM 7)
TAMPER JUMPER POSITION
4229 IN CABINET (NOT TAMPERED)
4229 REMOTE (TAMPER PROTECTED)
TB1
WHT GRY VIO BLK YEL ORG BRN
NO NC C GND NO NC C
RLY 2
RLY 1
RELAYS "OFF"
REED (TAMPER) SWITCH
TERMINATE EACH PROGRAMMED ZONE WITH 1000 OHM (1K) END-OF-LINE RESISTOR (EACH ZONE'S MAX. LOOP RESISTANCE: 300 OHMS + E.O.L.)
1K
ZONES: A B C D E F G H

Figure 13. 4229 Connections to Control

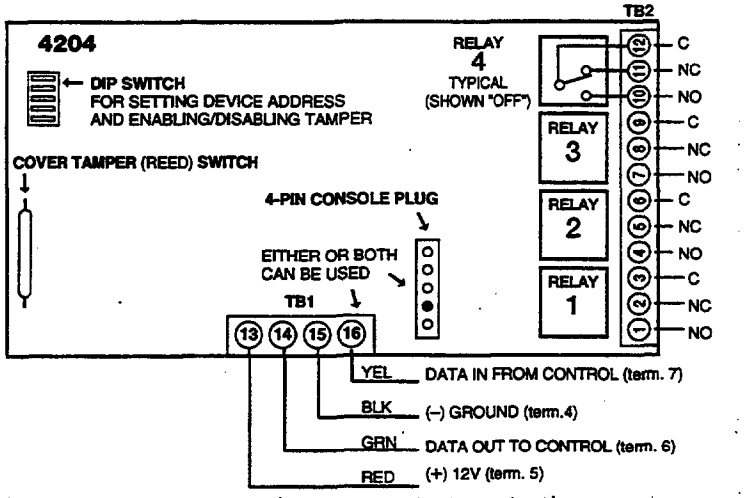

4204
DIP SWITCH FOR SETTING DEVICE ADDRESS AND ENABLING/DISABLING TAMPER
COVER TAMPER (REED) SWITCH
4-PIN CONSOLE PLUG
EITHER OR BOTH CAN BE USED
TB1
RELAY 4 TYPICAL (SHOWN "OFF")
RELAY 3
RELAY 2
RELAY 1
TB2
C NC NO C NC NO C NC NO C NC NO
YEL DATA IN FROM CONTROL (term. 7)
BLK (-) GROUND (term.4)
GRN DATA OUT TO CONTROL (term. 6)
RED (+) 12V (term. 5)

Figure 14. 4204 Connections to Control

Powerline Carrier devices

UL Powerline Carrier devices and the 4300 transformer are not UL Listed for fire or burglary functions and are intended for home automation.

When using Powerline Carrier devices, you must use a 4300 transformer instead of the 1321/TF2 transformer.

The 4300 transformer provides AC power to the control panel, and also supplies signals from the control panel through the premises AC wiring to the Powerline Carrier devices (which are plugged into AC outlets). Devices plugged into Powerline Carrier devices can then be made to perform various functions in response to commands entered at the keypads in the security system.

Wiring Connections

1. Splice one end of a 3-conductor cable to the wire ends of the 4142TR cable supplied with the 4300 transformer.
2. Connect the 4142TR cable plug to the 9-pin connector on the control (see SUMMARY OF CONNECTIONS diagram for location of the 9-pin connector).
3. Connect the other end of the 3-conductor cable to the 4300 transformer, as indicated in the table below and in the diagram that follows.

4300 TRANSFORMER WIRE CONNECTIONS

4300 TERMINAL	TO TERMINAL ON CONTROL
1 (AC)	1 (16.5V AC in)
2 (Ground)	25 Earth Ground terminal
3 (AC)	2 (16.5V AC in)

4300 TERMINAL	4142TR CABLE WIRE
4 (Sync)	RED (Pin 5 of 9-pin connector)
5 (Data)	VIOLET (Pin 1 of 9-pin connector)
6 (Com)	WHITE (Pin 4 of 9-pin connector)

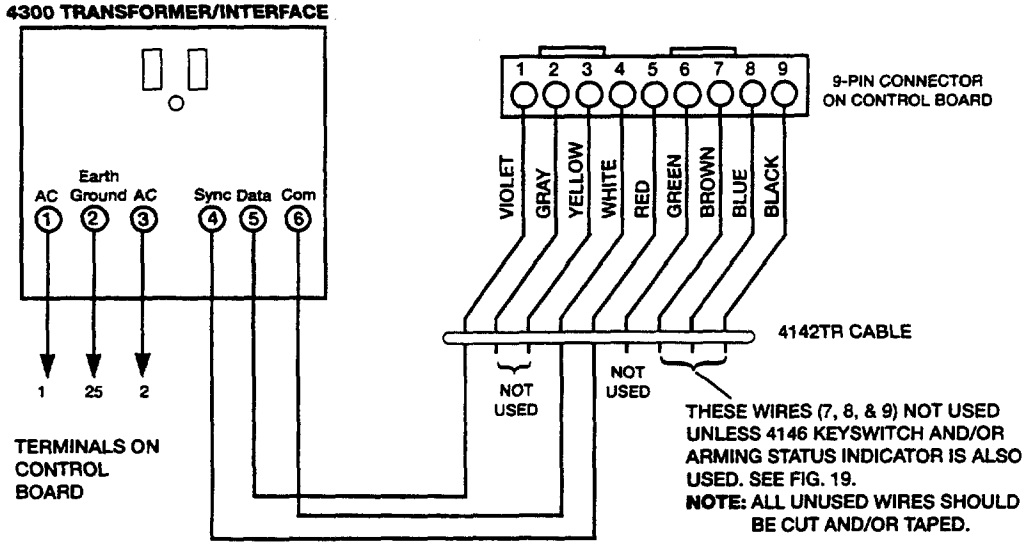


Figure 15. 4300 Transformer Wiring Connections

Programming Options Defined

The following will help you understand the programming of OUTPUT DEVICES when using *80 and *81 modes. The options used to start and stop these devices are described below, followed by the actual screen prompts and available entries.

The letter(s) in parentheses after each function described below, such as (A) after ACTION, are those that appear in the various summary displays of programmed data during programming.

ACTION (A) The "ACTION" of the device is how the device will respond when it is activated by the "START" programming. You may want the device to activate momentarily, to pulse on and off continuously, or to remain activated until some other event occurs to stop it. There are four different choices of actions:

- ACTIVATE for 2 SECONDS and then reset.
- ACTIVATE and REMAIN ACTIVATED until stopped by some other event.
- PULSE ON and OFF until stopped by some other event.
- NOT USED when the device is not used.

START *(STT)* The "START" programming determines when and under what conditions the device will be activated. The following START options are available:

A) 1. **EVENT (EV)** is the condition (Alarm, Fault, Trouble) that must occur to a zone or group of zones (zone list) in order to activate the device. These conditions apply ***only*** when a zone list is used. The different choices for "EVENT" are listed below and in the "Programming Output Relays & Powerline Carrier devices" section that follows.

- ALARM — Relay action begins upon any alarm in an assigned zone in the zone list.
- FAULT — Relay action begins upon any opening or short in an assigned zone in the zone list.
- TROUBLE — Relay action begins upon any trouble condition in an assigned zone in the zone list.
- NOT USED — Relay action is not dependent upon one of the above events.

2. **ZONE LIST (ZL)** is a group of zones to which the "EVENT" applies in order to activate a particular device. Note that there are a total of 3 zone lists that can be programmed in field *81 mode; when the selected EVENT (Alarm, Fault or Trouble) occurs in **any** zone in the selected "Start" ZONE LIST (1, 2, or 3), activation of the selected device will START.

B) 1. **ZONE TYPE/SYSTEM OPERATION (ZT).** If a System Operation, such as "DISARMING" or "ANY FIRE ALARM," is to activate the device, the appropriate choice would also be entered under the "ZONE TYPE" option. "ZONE TYPE" is used independently of the "EVENT/ZONE LIST" combination.

If a specific "ZONE TYPE" is chosen, any zone of that response type going into alarm, trouble, or fault will cause the device to activate as selected in "ACTION." If the same "ZONE TYPE" is also chosen for the STOP programming, any zone of that type that *restores* will de-activate the device.

If a "SYSTEM OPERATION" is chosen (e.g., End of Exit Time), that operation will cause the device to activate as selected in "ACTION." The different choices for "ZONE TYPE" and "SYSTEM OPERATION" are listed in "Programming Output Relays & Powerline Carrier devices" later in this section, and in the Programming Form.

2 **PARTITION No. (P).** The device's "Start" ZONE TYPE/SYSTEM OPERATION may be limited to an occurrence on Partition 1, Partition 2, or any partition (A).

STOP (STP): The "STOP" programming determines when and under what conditions the device will be de-activated. The following options are available:

A) 1. **RESTORE ZONE LIST (ZL).** If a "ZONE LIST" is used as the "Stop" event, the device will de-activate when **all** the zones in that list restore from a previous fault, trouble, or alarm condition. This will occur regardless of what is programmed to "START" the device; therefore, a "RESTORE ZONE LIST" would normally only be used when a "ZONE LIST" is used to start the device.

B). 1. **ZONE TYPE/SYSTEM OPERATION (ZT).** Instead of using a "RESTORE ZONE LIST", a specific zone (response) type or system operation action can be selected to de-activate the device.

If a specific "ZONE TYPE" is chosen, any zone of that response type that restores from a previous alarm, trouble, or fault condition will cause the device to de-activate.

If a "SYSTEM OPERATION" is chosen, that operation will cause the device to de-activate. The different choices for "ZONE TYPE" and "SYSTEM OPERATION" are listed in "Programming Relays & Powerline Carrier devices" later in this section, and in the Programming Form.

2. **PARTITION No. (P).** The device's "Stop" Zone Type/System Operation may be limited to an occurrence on Partition 1, Partition 2, or any partition.

During normal system operation, any devices may be manually *started* by keypad entry of: **Code + # + 7 + "n"** or manually *stopped* by keypad entry of: **Code + # + 8 + "n,"** where "n" = the device number to be controlled.
As a minimum, the ACTION (A) and PARTITION No. (P) fields must be programmed for this manual action to be operative.

If a relay is energized before a 4-wire smoke detector is reset, the relay will be stopped by the interruption of Aux. Power that resets the smoke detector. If this is not desired, the power to the relay unit should be supplied from another 12V power source (e.g., the same source that is powering external equipment through the relay contacts).

Programming Output Relays and Powerline Carrier Devices

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8+ 0 + 0.**

Program fields *22 RF SYSTEM, *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required before continuing.

3. **Press *27. POWERLINE CARRIER DEVICE HOUSE ID.** ☐
   Enter House ID 1–15 for Powerline Carrier devices, as follows:
   0 = A, 1 = B, 2 = C, 3 = D, 4 = E, 5 = F, 6 = G, 7 = H, 8 = I, 9 =J,# + 10 = K, # + 11 = L, # + 12 = M, # + 13 = N, # + 14 = O, # + 15 = P.
   Default is **0**.
   The House ID must match the House ID set on the powerline carrier devices. The unit ID for these devices is 1–8 depending on which device is being programmed. For example, device #1 must be set to unit ID 01, device #2 to unit ID 02, etc.
4. **Press *80.** Note that this is an interactive programming mode. It is used to program all output devices used in the system (4229 or 4204 Relay modules, or Powerline Carrier devices). Refer to the Programming Form worksheet for *80 Interactive Mode.

Output Device Displays ↓

Enter Device No.
(00 = Quit) 01

Upon pressing *80, this screen will appear. Enter the Device Number 01 or 02 for a 4229, or 01, 02, 03, or 04 for a 4204, or 01–08 for Powerline Carrier devices (or 00 to end these entries). Press the [*] key to continue.

The [*] key is used to accept an entry and advance to the next prompt. The [#] key is used to revert back to the last question to check or change an entry. Press [*] to go forward again.

02 A EV ZL ZT P
STT 0 0 0 00 1

This screen displays a summary of the current Device START programming (for this example, device 02 has been selected).
Press the [*] key to continue.

02 A EV ZL ZT P
STP – – 0 00 1

This screen displays a summary of the current Device STOP programming.
Press the [*] key to continue.

02 Device Action
No Response 0

Enter the desired device action as listed below. Press the [*] key to continue.
0 = No response 2 = Close and Stay Closed
1 = Close for 2 seconds 3 = Continuous Pulse on & off (1 sec ON, 1 sec OFF)

02 Start Event
Not Used 0

Enter the event to START the relay:
0 = Not used; 2 = Fault; 1 = Alarm; 3 = Trouble
A zone list must be used in conjunction with an event. If a zone type/system operation is to be used instead of an event, enter 0.
Press the [*] key to continue.

02 Start: Zn List
No List 0

If a zone list will be used to START the relay action, enter the zone list number (to be programmed in field *81): 1, 2, or 3. If not used, enter 0. Press the [*] key to continue.

02 Start: Zn Typ
Not Used 00

If a zone type or system operation will be used to START the device action, enter the appropriate two-digit code (see table that follows). If not, enter 00.
Press the [*] key to continue.

CHOICES FOR ZONE TYPES

00 = Not Used	04 = Interior Follower	08 = 24 Hr Aux
01 = Entry/Exit #1	05 = Trouble Day/Alarm Night	09 = Fire
02 = Entry/Exit #2	06 = 24 Hr Silent	10 = Interior w/Delay
03 = Perimeter	07 = 24 Hr Audible	24 = Silent Burglary

CHOICES FOR SYSTEM OPERATION

20 = Arming–Stay	36 = **At Bell Timeout***	42 = **System Battery Low
21 = Arming–Away	38 = Chime	43 = Communication Failure
22 = Disarming (Code + OFF)	39 = Any Fire Alarm	52 = Kissoff
31 = End of Exit Time	40 = Bypassing	58 = Duress
32 = Start of Entry Time	41 = **AC Power Failure	
33 = Any Burglary Alarm		

** Use 0 (Any) for Partition No. (P) entry.

*** Or at Disarming, whichever occurs earlier.

02 Start: Part
Any Partition A

Enter (if applicable) the partition number 1 or 2 (or 0 for any).
Press the [*] key to continue.

02 Stop: Zn List
No List 0

If a zone list will be used to STOP, or restore, the device action, enter the zone list number 1, 2, or 3 (to be programmed in *81 mode). If not used, enter 0.

Press the [*] key to continue.

02 Stop: Zn Typ
Not Used 00

If a zone type or system operation will be used to STOP the device action, enter the appropriate two digit code (see the "ZT" choices listed above). If not, enter 00. Press the [*] key to continue.

02 Stop: Part
Any Partition A

Enter (if applicable) the partition number 1 or 2 (or 0 for any). Press the [*] key to continue.

02 A EV ZL ZT P
STT 0 0 0 00 1

This screen again displays a summary of the current device START programming . Press the [*] key to continue.

02 A EV ZL ZT P
STP – – 0 00 A

This screen again displays a summary of the current device STOP programming. Press the [*] key to continue.

02 X10 Device ?
0 = No, 1 = Yes 00

Enter 1 if using a Powerline Carrier Device (X-10); if not, enter 0.

The display then returns again to the first screen so that the next device number to be programmed can be entered, or enter [0][0] to end device programming.

Previously entered data can be reviewed by pressing [#] [8] [0]. After the device number is chosen, press [*] to go to the next screens. This is a review mode only, and data cannot be changed.

Example of Output Device Programming

A lamp is to be turned on via a Powerline Carrier device (X-10) when any one of 3 specific zones are faulted, or when any 24-hour auxiliary zone is faulted. We want to be able to turn off the lamp **manually** without affecting the arming status of the system.

To program this, we would do the following:

- In *80 interactive mode we choose Output Device 01 and program the Action (A) to be "2" (Close and stay closed). The Event we are looking for to *start* the Device action is a fault, so we will program "2" in (EV). We will use Zone List 1 for the 3 specific zones, so we will program "1" in (ZL), (and we will program these 3 zones in *81's Zone List 1).
- The second condition for turning on the indicator is triggering a 24-hour aux. zone (Zone Type 08), so we will program (ZT) as "08".
- Next, enter the Partition number (P) in which you want the triggering of a 24-hour zone to occur; enter 1 or 2, or enter 0 for *any* partition.

- To *stop* the Device action and turn off the lamp, we do not want to use a restore of any zone, so a "0" will be programmed for the *Restore of* Zone List (ZL). We will use a **manual entry of User Code + [#] + [8] + Device #** to turn off. Therefore, we do not need to program a STOP event.

  Press [*] to continue.
- The system will display a summary screen for the START programming for device 01. Press [*] to continue.
- The system will display a summary screen for the STOP programming for device 01. Press [*] to continue.
- The system will display the "**X10?**" prompt. Enter 1 for yes.
- The **Enter Device No.** prompt for the next zone will be displayed.
- Press 00 and then [*] to exit the *80 mode.

Now use *81 Zone List mode to program the 3 specific zones in Zone List 1.

Press *81. (Zone Lists for Output Devices). This interactive mode is applicable only if you have programmed *80 mode.

Refer to the Programming Form worksheet for *81 Mode.

Zone List Displays ↓

Zone List No.
(00 = Quit) 01

Upon keying *81, this screen will appear. Enter the Zone List Number 01, 02, or 03 to program (or 00 to end these entries). Press the [*] key to advance.
In the following displays, zone list 01 has been selected for programming.

01 Enter Zn Num.
(00 = Quit) 00

Enter each zone number to add to the zone list by first entering the zone number, then the [*] key (example, 01*, 02*, 03*). After all zones desired are entered, press 00 to advance.

01 Del Zn List?
0 = No 1 = Yes 0

To delete the zone list, enter 1 (Yes). All zones in the zone list will be deleted automatically. and programming will return to the first screen.
To save the zone list, enter 0 (No) to advance.

01 Delete Zone?
0 = No 1 = Yes 0

To save the entire zone list, enter 0 (No) and programming will return to the first screen.
To delete a zone or zones in a zone list enter 1 (Yes) to advance.

01 Zn to Delete?
(00 = Quit) 00

Enter each zone to be deleted from the list, followed by the [*] key. After all zones to be deleted are entered, enter 00 to return to the first screen so that another list can be programmed, if desired.

Notes:

- Any list may include any or all of the system's zone numbers.
- A zone list can be assigned to more than one output relay.
- *If you only want to review what has been programmed previously*, enter [#][8][1]. The review can be advanced by using the [*] key. When finished, enter [0][0] * to quit. No programmed values can be changed in this mode.

When programming in *80 and *81 interactive modes is completed, exit the programming mode by keying *99.

Unplug the AC transformer.

Section 9. 4285 VOICE MODULE

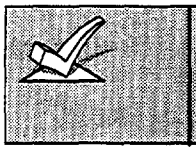
This section provides instructions for mounting the 4285 Voice Module, wiring the Voice Module and for programming the system for phone access via the Voice Module.

Installing the Voice Module

General Information

The 4285 Voice Module is an add-on accessory for the VISTA–20 that permits access to the security system via a Touch-tone phone (either on premises or by a call-in when away).

The Voice Module can announce many of the same words that would normally be displayed on an Alpha keypad under the same system conditions.



- Only one Voice Module can be used in this security system, and only in Partition 1.
- When using the 4285 Voice Module, addressable keypads must be used in the system, but set to the non-addressable mode (address 31).

When properly connected, the 4285 Voice Module will enable the user to do the following via a Touch-tone telephone:

a. Receive synthesized voice messages over the phone regarding the status of the security system.

b. Arm and disarm the security system and perform most other commands using the telephone keypad, with voice annunciation being provided over the phone as confirmation after any command is entered.

The phone used for phone access must have Touch-tone capability, though Touch-tone service is not necessary (if premises uses PULSE dialing, switchable phones must be set for Touch-tone temporarily before attempting phone access).

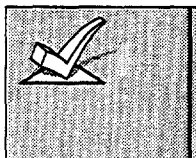
A ***Phone Access User's Guide*** for phone access to the security system is provided with the Voice Module for the user of the system.

Mounting The 4285 Voice Module

The Voice Module may be mounted in the control cabinet if space is available or, if this is not possible, on the side of the cabinet or adjacent to it.

When mounting the Module outside the cabinet, use the screw holes at its rear which will permit it to be mounted horizontally or vertically (2-faced adhesive tape may be used, if preferred). Wires can be brought out from the side or back (a round breakout is also available on the back).

Affix the Voice Module's connections label (supplied separately) to the inside of the Voice Module's cover if the cover is used. If you have installed the module within the cabinet, affix the label to the inside of the control cabinet's door.



If you are also using an Audio Alarm Verification (AAV) unit, refer to the AUDIO ALARM VERIFICATION (AAV) UNIT section for the wiring connections required when using both a Voice Module and an AAV unit. If you are not using an AAV unit, follow the wiring connections indicated in this section for the Voice Module.

Voice Module Wiring

The 4285 is wired between the control panel and the premises handset(s). It listens for touch tones on the phone line and reports them to the control panel. During on-premises phone access, it powers the premises phones; during off-premises phone access, it seizes the line from the premises phones and any answering machines.

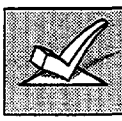
Note: The phone lines must be in service for the voice module to function, even when accessing the system from an on-premises phone.

1. Make 12V (+) and (–) and data in and data out connections from the Voice Module to the control, using the connector cable supplied with the Voice Module (see Figure 16).

Color Lead	Terminal On Control *
GREEN	DATA IN (terminal 6)
BLACK	AUX – (terminal 4)
RED	AUX + (terminal 5)
YELLOW	DATA OUT (terminal 7)

* These are the same connections as those used for remote keypads connected to Partition 1.

2. Insert the keyed connector at the other end of the connector cable into the mating header on the Voice Module (see diagram on next page for location of the header).
3. Connect terminals 1 through 5 on the Voice Module as shown in the Wiring Table below and in the 4285 wiring diagram that follows.



Use an RJ31X jack with a direct-connect cord and make all connections exactly as shown. If the leads on the direct-connect cord are too short to reach their assigned terminals, splice additional wires to them, as required.

4285 WIRING TABLE

4285 Terminal	Connects to:
1. Phone In (Tip)	Terminal (21) on control.
2. Phone In (Ring)	Terminal (22) on control.
3. Phone Out (Tip)	BROWN lead from direct-connect cord.
4. Phone Out (Ring)	GRAY lead from direct-connect cord.
5. Ground	Earth ground terminal (25) on control.
6. *Not Used*	
7. *Not Used*	

If no touch tones are produced following access to the security system **from on-premises** (this problem may arise in rare cases), it may be necessary to reverse the wires connected to terminals 3 and 4 on the Voice Module **and** the wires connected to terminals (21) & (22) on the control. The wiring diagram shows the wiring connections that will provide proper operation in most cases.

Caller ID Units

If the telephone system on the premises includes a Caller ID unit, connect the unit **directly to the "Handset" terminals (21 & 22) on the control,** as shown in 4285 Voice Module Wiring Connections diagram that follows.

4285 WIRING NOTES:

1. Wire the 4285 Voice Module exactly as shown, using a direct-connect cord and RJ31X jack.
2. If Touch-tones are not heard when pressing keys following phone access to the security system *via an on-premises phone*, try reversing the pair of wires connected to terminals 3 & 4 on the 4285, **and** the pair of wires connected to terminals 21 & 22 on the control.
3. If an error signal (fast busy signal) is heard when trying to access the system via the phone, check for correct line seizure wiring, as described in note 4.
4. Connection to the incoming Telco line via a RJ31X jack and direct-connect cord, as shown in this diagram, is essential, even if the system is not connected to a central station. **The 4285 will not function if this is not done.**

   The house phone lines (gray and brown wires) must be wired to the Voice Module terminals, not to the control terminals. Otherwise, an error signal (fast busy signal) will occur when trying to access the system from an on-premises phone.
5. If the telephone system on the premises includes a Caller ID unit, connect the unit **directly** to the "Handset" terminals (21 & 22) on the control, as shown.

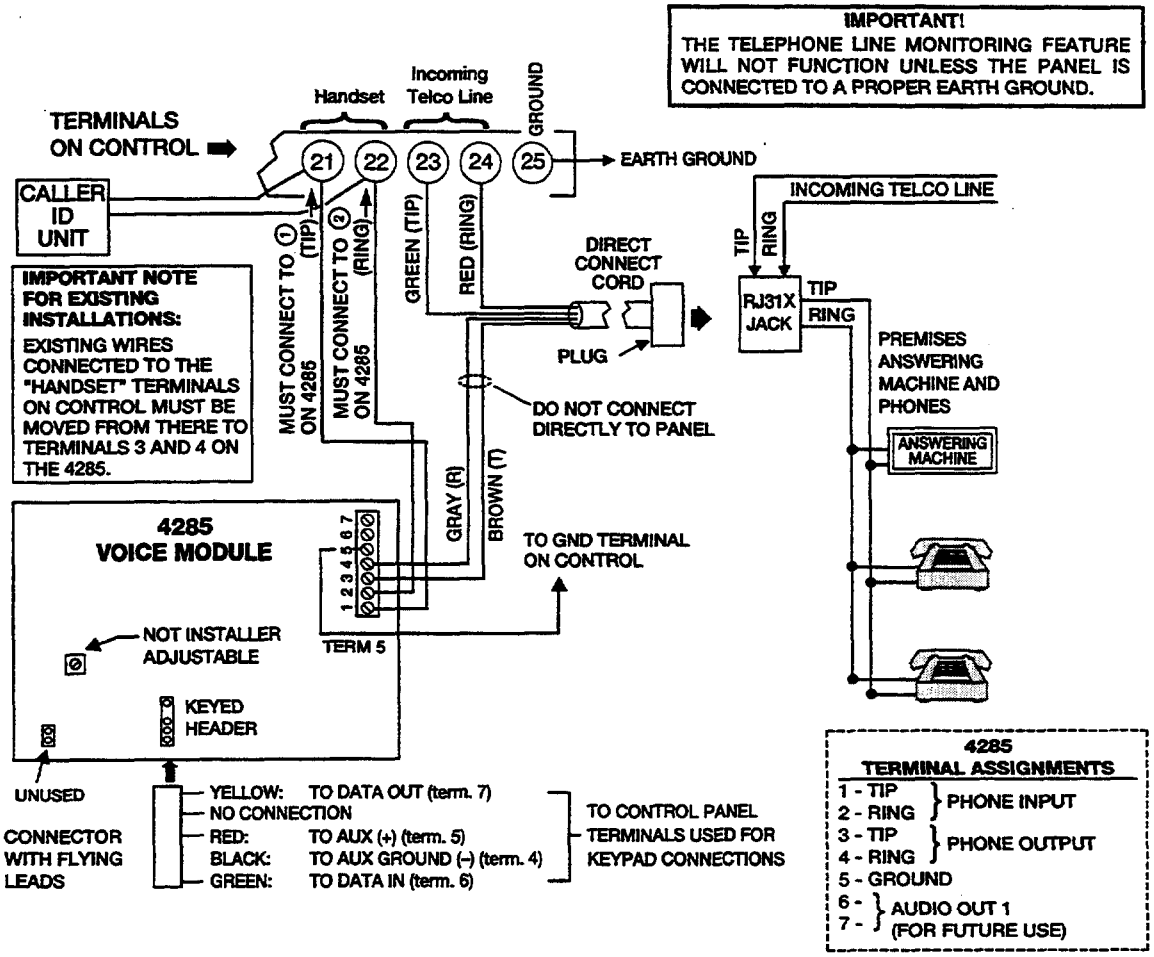


Figure 16. 4285 Voice Module Wiring Connections

Programming The Control For Phone Access

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 + 0 + 0.**
3. **Press *28. VOICE MODULE ACCESS CODE.** [|]
   If using a 4285 Voice Module, enter the 2-digit phone access code as follows: For first digit, enter 1–9; for second digit, enter # +11 for "*", or # +12 for "#". Example: if desired access code is 7* , 7 is the first entry, and # + 11 (for *) is the second entry.
   Enter "00" if not using a Voice Module (this is the default).
4. **Press *95. RING DETECTION COUNT.** [|]
   Refer to the chart below and program this field accordingly.

Voice Module	Answering Machine	Downloading	Field *95 Programming
Yes	No	No	Set for value other than "0" (1–15). This will enable the control panel to answer the phone call. Otherwise, it will not be possible to access the Voice Module.
Yes	Yes	No	Set for a value higher than the number of rings for which the answering machine is set. Example: if machine is set for 4 rings, use a value of 5 or higher. This is recommended so that the Voice Module can still be accessed if the answering machine is turned off and does not answer the phone call.
Yes	No	Yes	Set for value other than "0" (1–15).
Yes	Yes	Yes	Enter "15" to bypass the answering machine.

5. Zone descriptors should also be programmed, regardless of the type of keypads in use. If this is not done, the Voice Module will not annunciate a description of the zone(s) in alarm, trouble, etc. (the Voice Module will annunciate zone numbers only).
   You can enter zone descriptors now using interactive mode *82, or later. See the *Section 15. ALPHA DESCRIPTION PROGRAMMING* for a detailed procedure.
6. Exit the programming mode by entering ***99**.

Perform a preliminary check of the 4285 Voice Module, as indicated next.

Checking the Operation of the 4285 Voice Module

To Check Voice Module Operation From an On-Premises Phone:

1. Pick up phone and enter the programmed 2-digit phone code. Annunciation of a system status report should automatically start. See the User's Guide accompanying the Voice Module for detailed information regarding the nature of the status report, if necessary.
2. During any pause in the status report, or immediately following it, key the following via the keypad on the phone:
   Installer Code (4112), then press key 1 (OFF).
3. A "beep" should be heard on the phone and from a wired keypad, and the words **DISARMED...READY TO ARM** or **DISARMED...NOT READY TO ARM*** should be heard, indicating that the command was entered successfully.
   * DISARMED...NOT READY TO ARM would indicate an open zone.
4. Hang up the phone.

To Check Voice Module Operation From an Off-Premises Phone:

1. Have someone dial the premises phone number, using a TouchTone phone.
   - If the phone system does not include an answering machine, 2 long tones will be heard in the caller's phone, followed by a voice prompt **"HELLO, ENTER PHONE CODE NOW"**. The caller should enter the programmed 2-digit phone code.
   - If the premises phone system includes an answering machine, the 2-digit phone code should be entered during a pause at the beginning of, or during, the outgoing answering machine message.
2. When the 2-digit phone code is entered, the caller will hear a voice prompt asking for entry of the 4-digit system code (**"ENTER SYSTEM CODE NOW"**).
3. The caller should then enter the installer code (4112). As a safety feature, there is a 3-try limit in which to enter each code (phone code and system code), after which time the call-in will be aborted. Also, if no keys are pressed for a period of 20 seconds, the call-in will be aborted.
4. Annunciation of a system status report will start if both codes were entered correctly.
5 During any pause in the status report, or immediately following it, the caller should key the following via the keypad on the phone:
   Installer Code (4112), then 1 (OFF).
6. A "beep" should be heard (and from a wired keypad on the premises), and the words **DISARMED...READY TO ARM** or **DISARMED...NOT READY TO ARM*** should be heard on the caller's phone, indicating that the command was entered successfully.
   * DISARMED...NOT READY TO ARM would indicate an open zone.
7. At this point, the caller can hang up the phone.
8. Verify with the caller that there was successful access to the system and that the appropriate annunciations were heard over the phone.
9. If the Voice Module functioned satisfactorily, unplug the AC transformer from the AC outlet.

Section 10. EXTERNAL SOUNDERS

This section provides a list of compatible sounders, connection information for an external sounder and programming procedures for those options that affect the operation of external sounders.

Compatible Sounders

Ademco AB-12M 10" Motorized Bell & Box	Motor bell & box. UL Grade A. 100 mA current draw.
Ademco 1011BE12M 10" Motorized Bell & Box	Motor bell & box. UL Listed. 100 mA current draw.
Ademco 702 Outdoor Siren	Self-contained 6–12 volt siren (driver built-in) and weatherproof for outdoor use. Can be wired for either a steady or warble sound.
Ademco 719 2-Channel Siren	Two-channel, self-contained 6–12-volt siren (driver built in). 109dB @ 10 feet. 550mA current draw.
Ademco 747 Indoor Siren	Self-contained 12 volt siren (driver built-in) for indoor wall mount. 747F available for flush mounting.
Ademco 747UL Indoor Siren	Self-contained siren (driver built-in) for indoor wall mount. UL Listed.
Ademco 744 Siren Driver	6 jumper-selected sound outputs. Rated at 119dB with use of an 8-ohm 30 watt speaker.
Ademco 745X3 Voice Siren Driver	Voice siren driver with English, Spanish and French voice messages. Separate messages for Fire and Burglary. Use with 8-ohm speaker. UL Listed.
Ademco 705–820, 5-inch Round Speaker	15-watt, 8-ohm speaker.
Ademco 713 Speaker	40-watt, 8-ohm, indoor/outdoor speaker.
System Sensor PA400B (beige)/PA400R (red) Indoor Piezo Sounder	Indoor piezo sounder (red or beige), rated at 90 dB @ 10 feet.

UL

- Use only UL Listed sounding devices for UL installations.
- The total current drawn from the alarm output and the auxiliary power output, *combined*, cannot exceed 700 mA. In addition, the sounding device must be a UL Listed audible signal appliance rated to operate in a 10.2-13.8 VDC voltage range, and must be mounted indoors. Example: Wheelock Signals Inc. siren model 34T-12 (provides 85dB[A] for NFPA 74 & Standard 985).

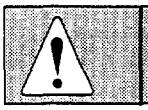
Sounder Connections

The VISTA–20 provides a 12 VDC output which can power external alarm sounders (bells or sirens, see compatible sounders listed previously). This output will activate a sounder when an alarm occurs in partition 1 or 2.

Make connections to alarm output terminals **3** (+) and **4** (–). See Figure 17.

Non-UL Installations

The total current drawn from this output cannot exceed 2 amps. A battery must be installed since this current is supplied by the battery.



Going beyond the limits indicated (2 amps) will overload the power supply, or may cause the electronic circuit protecting the sounder output to trip.

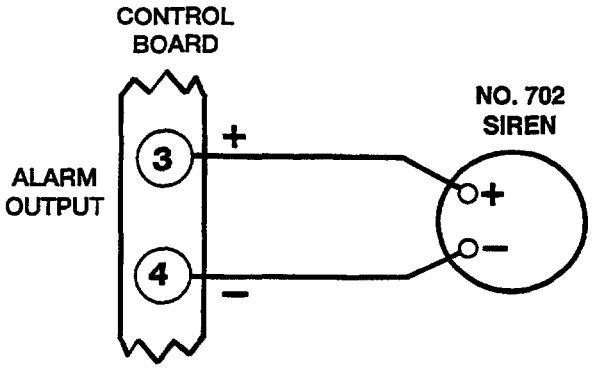


Figure 17. Typical Sounder Wiring

Programming for External Sounders

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 0 0.**
3. **Press *32. (Single Alarm Sounding per Zone/Armed Period).** ☐
   Enter "1" for yes, "0" for no (default). Enter "0" for UL installations.
4. **Press *33. (Fire Sounder Timeout).** ☐
   Enter "1" for no timeout, "0" for timeout (default). Enter "0" for UL installations.
5. **Press *34. (Alarm Bell Timeout).** ☐
   Enter 0 for no timeout, 1 for 4 min (default), 2 for 8 min, or 3 for 12 min. Enter "1" for UL installations.
6. **Press *37. (Confirmation of Arming Ding).** [1]
   There are separate entries in this field for partition 1 and for partition 2. Enter "0" for no (default), "1" for yes.
7. Exit the programming mode by entering *99.

Testing the Sounder

After installation of the sounder is completed, *each* partition of the Security System should be carefully tested, as follows.

1. Connect the battery wires from the control board to the battery, observing correct polarity.
2. Enter the **installer code (4112)** and press the **TEST [5]** key on the keypad.
   The external sounder should sound for 1 second if the sounder is good and proper connections have been made. Note that if the backup battery is discharged, the sounder will not turn on.
3. To turn off the test mode, enter the **installer code (4112)** and press the **OFF** key.
4. Disconnect the battery wires from the battery terminals.
5. Unplug the AC transformer from the AC outlet.

Section 11. LONG RANGE RADIO

General Information

Check availability of Models 7720 PLUS or 7820 long range radios.

If output to long range radio is selected, all messages that are programmed to go to the primary telephone line receiver will also be sent to the 7720 PLUS or 7820 long range radio. These messages will be in Contact ID format (not affected by entry in field *48).

UL For UL installations, Long Range Radio must be disabled (*29 = "0").

The data line is supervised, as well as certain functions in the radio. If communication is lost or a trouble develops, a message will be attempted to be sent via both radio and telephone to the central station.

For complete information, see the manual that accompanies the radio.

Connection

Connect the data in/data out terminals and voltage input terminals of the No. 7720 PLUS or 7820 Long Range Radio to the control's keypad connection points, terminals 4, 5, 6, and 7 as shown below.

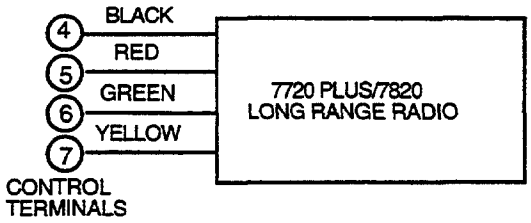


Figure 18. Long Range Radio Connections

Programming

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 keypad terminals on the control, power up the system temporarily. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 0 0.**
3. **Press *29** OUTPUT TO LONG RANGE RADIO ☐
4. Enter the first digit of the trouble dialer report. The 2nd digit of the code entered in field *60 is automatically sent as the second digit of this code.
5. Program the 7720 PLUS or 7820 radio for device address 3.
6. Exit the programming mode by keying ***99**.

Section 12. REMOTE KEYSWITCH

This section provides instructions for the connection of an optional remote 4146 keyswitch for remote arming and disarming of the system, and the programming necessary when a keyswitch is used. Also included is a description of how the keyswitch operates in the system.

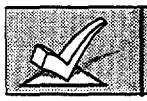
Installing the Keyswitch

The remote 4146 keyswitch (with red and green LEDs to indicate status) is connected to zone 7.

Note that you can use a keyswitch in one partition only.

Remote Keyswitch Connections

1. Connect the 4146 keyswitch's normally open momentary switch to zone 7 terminals (18 and 19). Remove the 2000 ohm EOL resistor if connected across zone 7 terminals.



When zone 7 is used for keyswitch usage, zone 7 is no longer available for use as a protective zone.

2. Connect the Red and Green LEDs to pins 7, 8, and 9 on the 9-pin connector, using a 4142TR cable as shown in Figures 19 (A) and (B).
3. Connect a 2000 ohm EOL resistor across the momentary switch.
4. You can wire an optional closed-circuit tamper switch (model 112) in series with the zone. If the switchplate is then removed from the wall, the tamper will open, disabling keyswitch operation until the system is next disarmed from the keypad.

   If the tamper (or zone 7 loop wires) is opened when the system is armed, an alarm will occur.

If you are using more than one keyswitch, connect the EOLR at the last switch. The momentary arming switches must all be across the loop and the tamper switches in series with it. The LEDs will not be as bright since they will be sharing drive current in this case.

The 4146 keyswitch can be used with only the Red and Green LEDs connected (omitting the lock switch and tamper switch) to simply provide an arming/ready status indicator panel. When so used, no connections are made to zone 7, which may then be used as a hardwired protection zone, **provided you do not enable field *30**. The LEDs then indicate the arming/ready status for the partition to which hardwired zone 7 is programmed (see "LED Indications" table under **Keyswitch Operation** at the end of this section).

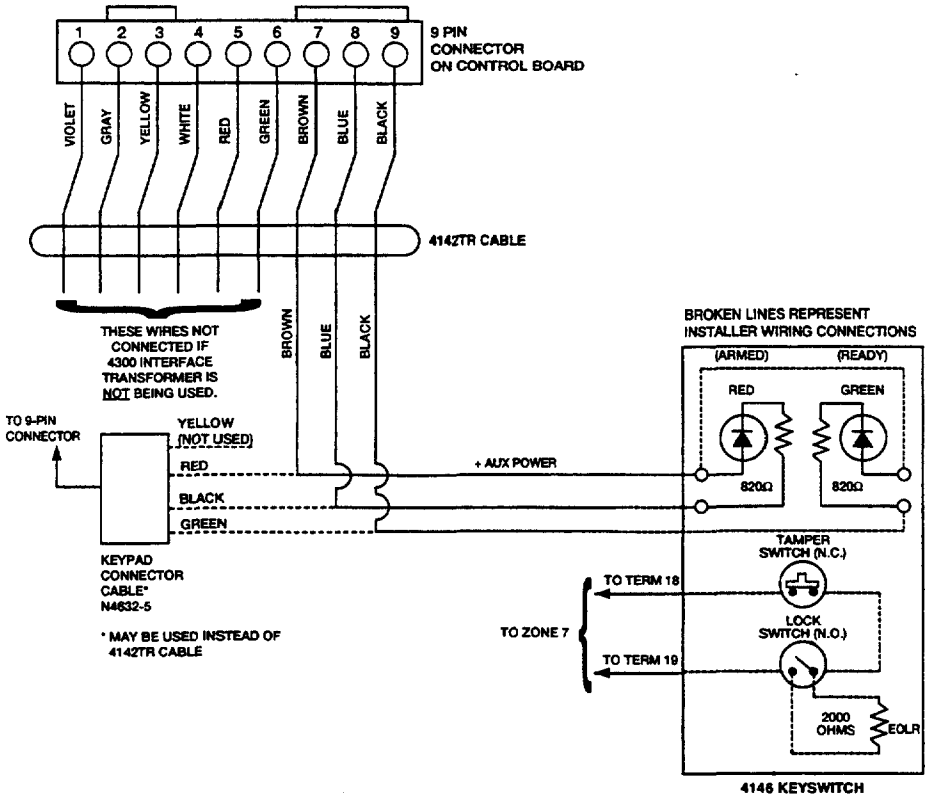


Figure 19 (A). Keyswitch Wiring (4300 Interface Transformer not used)

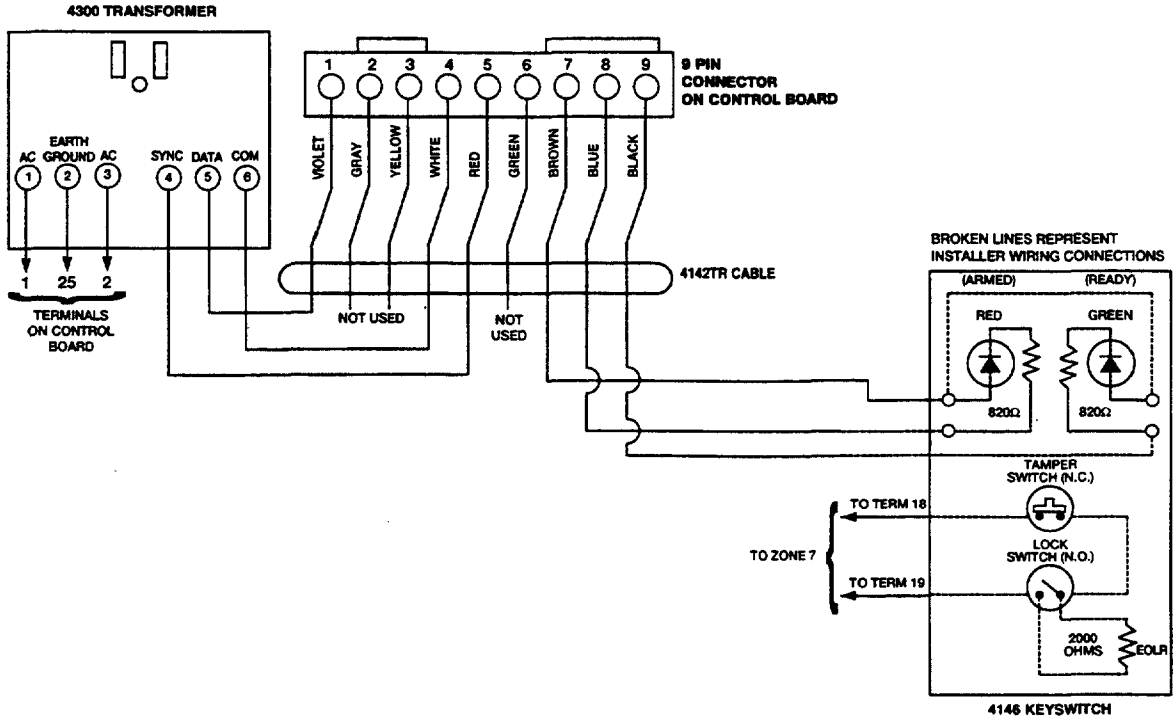
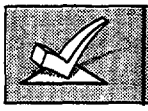


Figure 19 (B). Keyswitch Wiring (4300 Interface Transformer also used)

Programming For The Remote Keyswitch

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 terminals, power up the system. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.

2. Enter the programming mode by entering:
   Installer code (4 1 1 2) + 8 + 0 + 0 keys.



Program fields *22 RF SYSTEM, *25 WIRED ZONE EXPANSION and *30 KEYSWITCH ENABLE must be programmed as required before continuing.

Note: If keyswitch is enabled, in menu mode *56 the Zone Type (ZT) for zone 7 will show "77", and will not be accessible for programming.

3. **Press *56.**
   Note that this is an interactive programming mode. You will use it to program zone 7 for partition number, alarm report codes, and to program response time (zone type will automatically show as "77").

```
Enter Zn Num.
(00 = Quit)      07
```
Zone Number ↑

Upon entering *56 mode, this prompt will be displayed.
Enter zone number "07" (if not already present).
Following this entry, press * to continue.

Typical summary display

```
Zn ZT  P  RC In  RT
07 77  1  00 HW: 1
```

A summary display will appear, showing the present status of zone 7's programming.
Zn = zone number;
ZT = zone type;
P = partition to which zone is assigned;
RC = report code for that zone;
In = input type of zone;
RT = response time for that zone.
Values displayed are the factory defaults for zone 7 or, if this is not a new installation, they are the currently programmed values.

↓ Zone Number

```
07 Zone Type
              77
```
Zone Type ↑

To program zone 7, press [*].
Zone type will be automatically displayed as "77", and no entry is required.
Press [*] to continue.

```
07 Partition
              1
```

The partition to which the keyswitch is assigned is entered here. Enter "1" or "2". *Note that the Keyswitch arming may only be used in one partition.* (Default = [1].
Press [*] to continue.

```
07 Report Code
1st 03 2nd 12   00
```

The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C".
If necessary, refer to *Section 17. SYSTEM COMMUNICATION* for complete information on report codes.
Enter the desired numbers and then press [*] to continue.

07 Response Time 1

Enter the desired response time for zone 7. The recommended entry for keyswitch operation is "1" (the factory default).
Selections available are: "0" (10 msec), "1" (350 msec), or "2" (700 msec).
Enter the desired numbers and then press [*] to continue.

Typical summary display

Zn ZT P RC In RT 07 77 1 3C HW: 1

A summary display will appear, showing the data for zone 7 that was just programmed.
If it is programmed satisfactorily, press [*] to continue.

Program Alpha? 0 = No 1 = Yes 0

The next request is to enter an Alpha descriptor for zone 7. Since this is a keyswitch zone, no descriptor is required. Enter "0".

Enter Zn Num. (00 = Quit) 08

If "0" (no) was entered above, the system will display a prompt for entry of the number for the next zone.
Press [0] [0] plus [*] to exit *56 mode.

Exit the programming mode by keying ***99**.

After keyswitch operation is verified (see below), unplug the AC transformer and proceed to the next section.

Keyswitch Operation

To arm AWAY, turn key and release within a 1/2 second. To arm STAY, turn and hold key for longer than 2 seconds. To disarm, turn key and immediately release.

LED indications are defined as follows:

GREEN	RED	MEANING
OFF	OFF	DISARMED & NOT READY
ON	OFF	DISARMED & READY
OFF	ON STEADY	ARMED AWAY
OFF	SLOW FLASH	ARMED STAY
OFF	RAPID FLASH	ALARM MEMORY

Section 13. AUDIO ALARM VERIFICATION (AAV) UNIT

General Information

An Audio Alarm Verification (AAV) module, such as the Eagle 1241, is an add-on accessory that permits voice dialog between an operator at a central station and a person at the alarm installation, for the purpose of alarm verification.

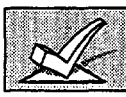
Alarm reports must be programmed for the primary phone number to enable this feature.

UL

The AAV option cannot be used in UL installations.

After all messages have been sent during a reporting session to the primary phone number, the control will trigger the AAV if at least one of the messages was an alarm report. If Contact ID format is selected for the primary phone number, the control will send a "listen-in to follow" message, which signals the 685 to hold the phone connection for 1 minute.

Once the digital message is "kissed off", the control will give up the phone line to the AAV module, without breaking connection with the central station. At this time, all sirens and all continuous keypad sounds in all partitions will be shut off.



You must connect a 4204 or 4229 relay module when using an AAV unit. Do not use relay output number 1 for any other usage.

Wiring Connections

The method used to trigger AAV is via the use of a 4204 or 4229 relay module, as shown in the AAV connection diagrams that follow (one diagram for connections when a 4285 Voice Module is used, the other when the 4285 is not used).

Programming

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the Partition 1 terminals, power up the system. If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 0 0.**
3. **Press *91. OPTION SELECTION.** Enter "4" for AAV monitoring. Enter "0" for UL installations.
4. **Relay programming in field *80:** Do not program anything for Relay #1.
5. Exit the programming mode by keying *99.
6. Unplug the AC transformer.

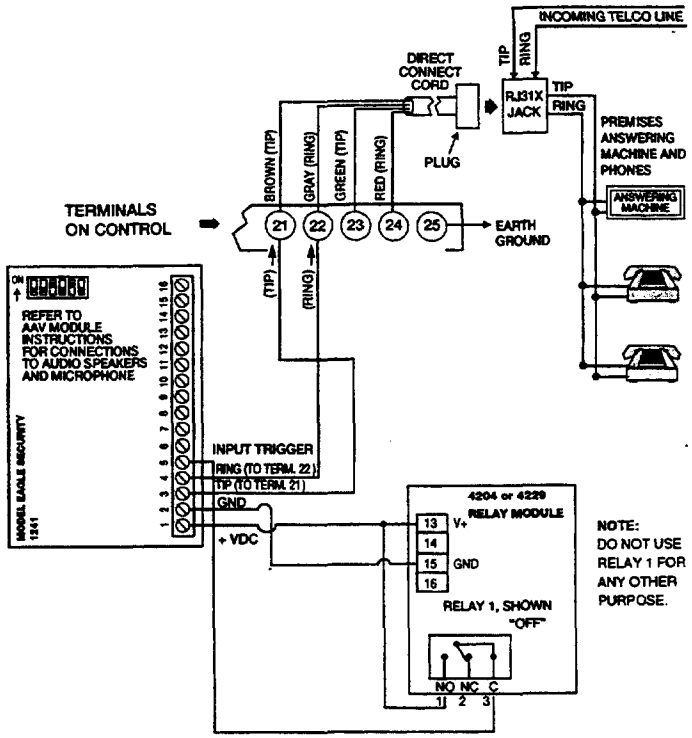


Figure 20. Connection Of AAV Unit When Not Using A 4285 Voice Module

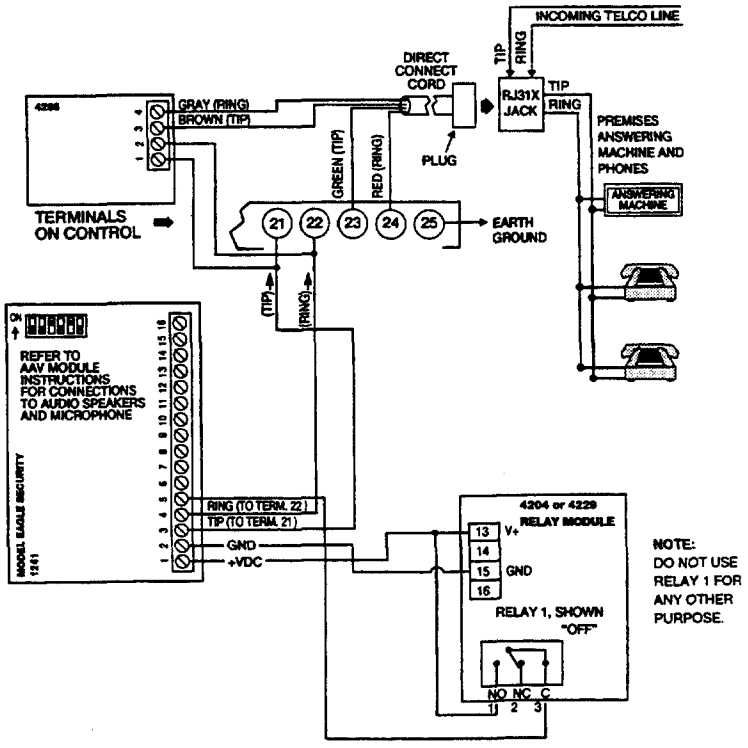


Figure 21. Connection Of AAV Unit When Also Using A 4285 Voice Module

Section 14. FINAL POWER UP

In section 2, you made temporary power connections for the purpose of programming and testing the installation. This section provides information about final power-up procedures and battery size calculations.

Earth Ground Connections

The designated earth ground terminal (25) must be terminated in a good earth ground for the lightning transient protective devices in this product to be effective. It also must be grounded to enable the telephone line fault indicator to work properly. The following are examples of good earth grounds available at most installations:

Metal Cold Water Pipe: Use a non-corrosive metal strap (copper is recommended) firmly secured to the pipe to which the ground lead is electrically connected and secured.

AC Power Outlet Ground: Available from 3-prong, 120VAC, power outlets only. To test the integrity of the ground terminal, use a three-wire circuit tester with neon lamp indicators, such as the UL-Listed Ideal Model 61–035, or equivalent, available at most electrical supply stores.

AC Power-Up

1. Plug the 1321/TF2 or 4300 transformer into a 24-hour, uninterrupted 120VAC outlet.
2. Following power-up, **AC, dl** (disabled), or **Busy Standby** (Alpha keypads) or **NOT READY** (fixed-word keypads) will be displayed. Also the green "POWER" LED* on the keypad(s) should light.

   * Some keypads are equipped with a "READY" LED in place of a "POWER" LED.

   After approximately 1 minute, the initial displays will revert to **DISARMED...READY TO ARM** for Alpha keypads, or **READY** for Fixed-word keypads (if there are no faulted zones). This 1-minute delay allows PIRs, etc. to stabilize.

   To bypass this delay, press: [#] + [0].

Connecting The Back-Up Battery

In the event of an AC power loss, the Control panel is supported by a back-up, rechargeable gel cell battery. The minimum battery size recommended is the No. 467 (12V, 4AH) battery. See "Calculating Battery Size Needed" below. The battery is installed in the control cabinet.

The standby battery is automatically tested every 4 hours, beginning 4 hours after exiting programming mode. In addition, entry into the test mode will cause a battery test to be initiated.

Calculating the Battery Size Needed

Determine the total device current draw after filling in the AUXILIARY DEVICE CURRENT DRAW WORKSHEET on the next page. To this figure add the 100 mA that is drawn by the control panel itself. Then, to determine the battery size needed, use the following formula:

Total Current Drawn* x Number of hours standby wanted = Battery Ampere/Hours.

* Convert mA figure to decimal Amps (see example).

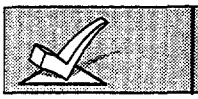
Example: If total auxiliary device current drawn is 450 mA, add 100 mA for the control panel, for a total of 550 mA (0.55 amps); if 24-hour standby is wanted, the calculation will be:

0.55 mA x 24 hours = 13.2 Ampere/Hour battery needed.

In this example, two 7 Amp/Hr batteries (connected in parallel) must be used.

Making the Battery Connections

1. Use the battery standby formula (above) to select the appropriate battery for the installation.



Do not connect the battery until all devices have been wired to the control.

2. Attach the Red and Black wires on the battery connector cable as follows:
   a) Red to the positive (+) battery tab on the control board.
   b) Black to the negative (–) battery tab on the control board.

   See the SUMMARY OF CONNECTIONS diagram for location of the (+) and (–) battery tabs on the control board.

3. Attach the Red and Black wires at the other end of the battery connector cable as follows:
   a) Red to the positive (+) terminal on the battery.
   b) Black to the negative (–) terminal on the battery.

Note: The battery is periodically tested automatically (approximately every four hours), and if it cannot sustain a load, a low battery message is displayed and, if so programmed, will be reported to the central station.

AUXILIARY DEVICE CURRENT DRAW WORKSHEET

DEVICE	CURRENT	# UNITS	TOTAL CURRENT
4127 Keypad	20 mA		
4137AD Keypad	60 mA		
5137AD/ADR Keypad	90 mA		
6127 Keypad	20 mA		
6128 Keypad	30 mA		
6137 Keypad	85 mA		
6138 Keypad	100 mA		
6139/6139R Keypad	100 mA		
5881/5882 RF Receiver	35mA		
4219 Zone Expander	35mA		
4204 Relay Unit	15/180mA‡		
4229 Zone Expander/Relay Unit	35/100mA‡		
4285 Voice Module	160mA		
*			
*			
*			
*			
*			
		TOTAL = (Current available from Aux. terminals = 600 mA max.)**	

* If using hard-wire devices such as PIRs, refer to the specifications for that particular unit's current draw.

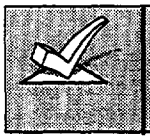
** In UL installations, maximum current draw from the Auxiliary Output and the Alarm Output ***combined*** must not exceed 700 mA.

‡ Figures are for relays OFF/relays ON.

Section 15.
ALPHA DESCRIPTOR PROGRAMMING

This section provides instructions for programming Alpha descriptors. This is recommended for systems using Alpha keypads, and necessary if a 4285 Voice Module is used.

If using a 4285 Voice Module, select from those words in the Alpha Vocabulary list shown in **boldface type**. *The Voice Module will not provide annunciation of the other words.*



If a 4285 Voice Module is added to an existing VISTA–20 system, the Alpha descriptors presently in the system should be re-programmed, selecting from those words shown in **boldface type** in the Alpha Vocabulary list. The Voice Module will not provide annunciation of any other words.

The ALPHA VOCABULARY LIST and CHARACTER CHART will be found on a following page.

Assigning Zone Descriptors

The Alpha Keypad used with the *VISTA–20* can have a user-friendly English language description/location of all protection zones, keypad panics, and RF receiver supervision faults programmed into the system. Each description can be composed of a combination of words (up to a maximum of 3) selected from a vocabulary of 244 words stored in memory (see a following page). In addition, up to 5 installer-defined words can be added to those already in memory. Thus, when an alarm or trouble occurs in a zone, an appropriate description for that zone's location will be displayed at the keypad.

Note: Alpha Descriptor entry can be done locally at the Alpha Keypad or remotely using Downloading software. The Alpha keypad procedure is described below.

Entering Zone Descriptors (program menu mode *82)

The descriptor can be entered when the zone is being defined in field *56 but we recommend that it be done in field *82.

There are two methods that can be used to enter Alpha descriptors.

The easiest method requires that you simply enter the 3-digit reference number for the desired word(s). The 3-digit number for each word is provided in the Alpha Vocabulary list (on a following page).

An alternate method allows you to pick the desired words by scrolling through the Alpha Vocabulary list.

Programming the Descriptors

1. With the system powered up, enter the programming mode by keying: **Installer code (4 1 1 2) + 8 + 0 + 0.** The following display will appear:

Installer Code
20

Program Alpha ?
0 = No, 1 = Yes 00

2. **Press *82.**
   The "Program Alpha ?" prompt will appear.

Custom Words ?
0 = No, 1 = Yes 00

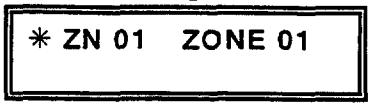
3. **Press "1" (Yes).**
   The "Custom Words" prompt will appear.

4. **Press "0" (No).*** The system will then automatically display the descriptor for zone 1.

* The procedure for adding custom words to the built-in vocabulary will be found later under "Adding Custom Words".

Summary Mode Display

Default Descriptor ⬇

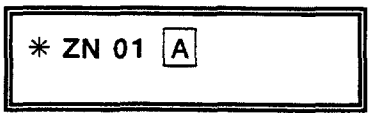


If a descriptor was not entered previously for zone 1, the default descriptor for zone 1 will be displayed.

Note that this a "summary mode", and that no entries can be made. Entries can be made only when the display contains a flashing cursor, which signifies the "entry mode".

Flashing Cursor (system is ready for entry of word).

⬇



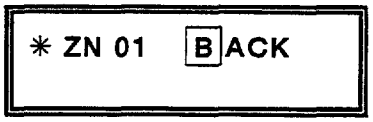
5. To delete or change the default descriptor for zone 1, **press * plus the same zone number (01).** This will clear that descriptor and gain access to the entry mode with flashing cursor, allowing changes to be made.

NOTE: If you do not wish to change the existing descriptor for zone 1, enter * plus the next zone number for which you wish to enter (or check) a descriptor. A summary display for that zone will appear. You must then press * plus the same zone number again to gain access to the entry mode (flashing cursor) for that zone.

When entering Zone Descriptors using Method 2, the keypad keys perform the following functions:

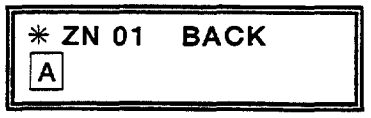
- [3] Scrolls both alphabet and actual words in *ascending* alphabetical order.
- [1] Scrolls both alphabet and actual words in *descending* alphabetical order.
- [6] Selects between alphabet and actual word list; also used to save words.
- [8] Stores the zone description in memory.

Flashing Cursor ⬇



6. **Press # plus 3-digit number** for the first word from the "Alpha Vocabulary List". Example: The descriptor that we wish to enter for zone 1 is BACK DOOR. From the list, BACK = 013. Therefore, you would enter **# 0 1 3.**

Note: If you accidentally enter the wrong word, simply press # plus the correct 3-digit number for the word you want.

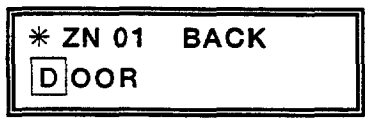


⬆

Flashing Cursor if "6" is pressed (system is ready for next word).

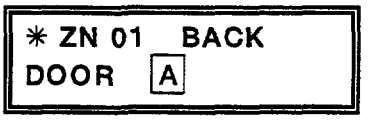
7. **Press "6" to accept the selected word and continue.**

Note: If this is the only word you are using for the descriptor, press "8" instead of "6" to save that word in memory, and then go to step 11.



⬆Flashing Cursor

8. **Enter the 3-digit number for the next word.** In our example, the word is DOOR, whose number is "057". Enter **# 0 5 7.** This display will appear:



Flashing Cursor if "6" is pressed (system ready for next word).

9. **Press "6" to accept the selected word.**

   Note: If these are the only words you are using for the descriptor, press "8" instead of "6" to save them in memory.

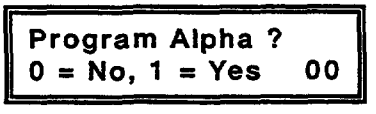
10. The two words in our example have now been entered. Note, however, that up to three words may be entered (provided the number of characters will fit on the screen). **Press "8" to save all words in memory.**

Summary Display

The "A" with the flashing cursor over it will disappear, indicating that the word(s) are stored in memory for that zone, as shown in the summary display at the left.

11. To enter a descriptor for the next zone, press * plus the desired zone number (e.g., *02. The summary display following step 4 previously will appear. Now repeat steps 6 through 10 for the descriptor for the next zone.

12. To exit the Alpha descriptor mode, press "*+0+0" at the summary display.



This prompt will be displayed.

13. Press "0". This will be displayed.

14. Press ***99** to exit the programming mode.

Alternate Method For Programming Zone Descriptors

1. Perform steps 1 through 5 of previous method.
2. Note that the first letter of the alphabet appears after the zone number, and that the zone number is automatically included with the description. *If there already is a description for the zone,* the description will appear (with no cursor, since this is a display mode). *To enter or change a description,* press [*] + Zone Number again. A flashing cursor will now appear.

   Assume, for example, that the desired description for zone 1 is BACK DOOR.
3. **Select the first letter of the desired description** (note that "A" is already displayed).

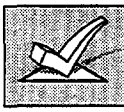
   Press key [3] repeatedly to advance through the alphabet (e.g., to "B"), or key [1] to go backward. Then press [6] to display the first available word beginning with the desired letter (e.g., BABY).

   Next, press [3] repeatedly to move forward, or [1] to move backward, until the desired word is displayed (e.g., BACK). Then press [6] to accept the word and toggle back to the alphabet list.

4. For selection of the next word (e.g., DOOR), repeat step 3, as follows. Press key [3] until the first letter of the next word appears (e.g., "D"). Then press [6] to display the first available word beginning with that letter (e.g. DAUGHTERS). Press [3] repeatedly until the desired word (e.g., DOOR) appears. To accept the word, press [6], which toggles back to the alphabet list.
5. When all desired words have been entered, press [8] to store the description in memory.
6. Enter *NN, where NN is the next zone that you want to review or for which you want to program a descriptor. To modify the descriptor, enter *NN again. To exit this mode, press "*00".

Adding Custom Words (will not be annunciated by 4285 Voice Module)

You can add up to five installer-defined words can be added to the built-in vocabulary. Each of the five "words" can actually consist of a "word string" of one or more words, but no more than *ten* characters can be used for each word or word string.



Custom words must begin with an *alphabetic* character. If a number or symbol is used as the first character, the word will not be saved.

When adding Custom Words in steps 3–6, the keypad keys perform the following functions:

- **[3]** Advances through the alphabet in ascending order.
- **[1]** Moves through the alphabet in descending order.
- **[6]** Selects desired letter; moves cursor one space to right.
- **[4]** Moves cursor one space to left.
- **[7]** Inserts a space at the cursor location, erasing any character located there.
- **[8]** Saves the new word in the system's memory.

1. Perform steps 1, 2, and 3 of **Programming the Descriptors** on a previous page.
   Select CUSTOM WORD mode (enter "1") when the prompt **CUSTOM WORD ?** is displayed.
2. Enter the number ([1]–[5]) of the custom word or word string to be created (for example, if you are creating the *first* custom word or word-string, enter [1], for the *second*, enter [2], etc.). A cursor will now appear at the beginning of the second line.
3. **One of two methods of entering the custom word's characters can now be used** *(refer to the CHARACTER LIST of letters, numbers, and symbols on a following page)*:

   Method 1:

   Press the [#] key, followed by the two-digit entry for the first letter you would like to display (e.g., [6][5] for "A"), **or...**

   Method 2:

   Use the [3] key to advance through the list of symbols, numbers, and letters. Use the [1] key to move back through the list.
4. When you have reached the desired character, press [6] to select it. The cursor will then move to the right, in position for the next character.
5. Repeat steps 3 and 4 to create the desired word(s). Note that the [4] key can be used to move the cursor to the left, if necessary, and that key [7] can be used to enter a blank (or erase an existing character). Remember, no word or word-string can exceed 10 characters.
6. Press the [8] key to save the custom word(s) and return to the "**CUSTOM WORD ?**" display.

   Repeat steps 2–5 for other custom words to be entered. To change a custom word, just overwrite it. If no more are to be entered now, press [0] to return to the Descriptor entry. The custom word(s) will be automatically added to the built-in vocabulary.

When zone descriptors are being entered as described in step 6 of **Programming the Descriptors**, the custom word numbers are 250 to 254 for words 1 to 5 respectively.

When being entered as described in step 3 in **Alternate Method For Programming Zone Descriptors**, each word will be found at the end of the group of words that begin with the same letter as it does.

ALPHA VOCABULARY LIST

(For Entering Zone Descriptors)

000 *(Word Space)*

A

• **001 AIR**
• **002 ALARM**
003 ALCOVE
004 ALLEY
005 AMBUSH
• **006 AREA**
• **007 APARTMENT**
008 ART
• **009 ATTIC**
010 AUDIO
011 AUXILIARY

B

• **012 BABY**
• **013 BACK**
• **014 BAR**
015 BARN
• **016 BASEMENT**
• **017 BATHROOM**
• **018 BED**
• **019 BEDROOM**
020 BELL
• **021 BLOWER**
• **022 BOILER**
023 BOTTOM
024 BOX
025 BREAK
• **026 BUILDING**
027 BURNER

C

028 CABINET
029 CALL
030 CAMERA
031 CAR
032 CASE
033 CASH
034 CCTV
035 CEILING
036 CELLAR
• **037 CENTRAL**
038 CIRCUIT
039 CLIP
• **040 CLOSED**
041 COIN
042 COLD
043 COATROOM
044 COLLECTION
045 COMBUSTION
• **046 COMPUTER**
047 CONTACT

D

• **048 DAUGHTERS**
049 DELAYED
• **050 DEN**
051 DESK
• **052 DETECTOR**
• **053 DINING**
054 DISCRIMINATOR
055 DISPLAY
056 DOCK
• **057 DOOR**
058 DORMER
• **059 DOWN**
• **060 DOWNSTAIRS**
061 DRAWER
• **062 DRIVEWAY**
063 DRUG
• **064 DUCT**

E

• **065 EAST**
066 ELECTRIC
067 EMERGENCY
068 ENTRY
• **069 EQUIPMENT**
070 EXECUTIVE
• **071 EXIT**
072 EXTERIOR

F

• **073 FACTORY**
074 FAILURE
075 FAMILY
• **076 FATHERS**
• **077 FENCE**
078 FILE
• **079 FIRE**
• **080 FLOOR**
081 FLOW
082 FOIL
• **083 FOYER**
084 FREEZER
• **085 FRONT**
086 FUR
087 FURNACE

G

088 GALLERY
• **089 GARAGE**
• **090 GAS**
091 GATE
• **092 GLASS**
093 GUEST
094 GUN

H

• **095 HALL**
• **096 HEAT**
097 HIGH
098 HOLDUP
099 HOUSE

I

100 INFRARED
• **101 INSIDE**
102 INTERIOR
103 INTRUSION

J

104 JEWELRY

K

• **105 KITCHEN**

L

• **106 LAUNDRY**
• **107 LEFT**
108 LEVEL
• **109 LIBRARY**
• **110 LIGHT**
111 LINE
112 LIQUOR
• **113 LIVING**
• **114 LOADING**
115 LOCK
116 LOOP
117 LOW
• **118 LOWER**

M

• **119 MACHINE**
120 MAGNETIC
121 MAIDS
122 MAIN
• **123 MASTER**
124 MAT
• **125 MEDICAL**
126 MEDICINE
127 MICROWAVE
128 MONEY
129 MONITOR
• **130 MOTHERS**
• **131 MOTION**
132 MOTOR
133 MUD

N

• **134 NORTH**
135 NURSERY

O

• **136 OFFICE**
137 OIL
• **138 OPEN**
139 OPENING
• **140 OUTSIDE**
141 OVERFLOW
142 OVERHEAD

P

143 PAINTING
• **144 PANIC**
145 PASSIVE
• **146 PATIO**
147 PERIMETER
• **148 PHONE**
149 PHOTO
150 POINT
151 POLICE
152 POOL
• **153 POWER**

Q

154 QUAD

R

155 RADIO
• **156 REAR**
157 RECREATION
158 REFRIG
159 REFRIGERATION
160 RF
• **161 RIGHT**
• **162 ROOM**
163 ROOF

S

164 SAFE
165 SCREEN
166 SENSOR
• **167 SERVICE**
• **168 SHED**
169 SHOCK
• **170 SHOP**
171 SHORT
172 SHOW
• **173 SIDE**
174 SKYLIGHT
175 SLIDING
• **176 SMOKE**
177 SONIC
• **178 SONS**
• **179 SOUTH**
180 SPRINKLER
181 STAMP
• **182 STATION**
183 STEREO
184 STORE
• **185 STORAGE**
186 STORY
187 STRESS
188 STRIKE
189 SUMP
190 SUPERVISED
191 SUPERVISION
192 SWIMMING
193 SWITCH

T

194 TAMPER
195 TAPE
196 TELCO
197 TELEPHONE
198 TELLER
• **199 TEMPERATURE**
200 THERMOSTAT
• **201 TOOL**
202 TRANSMITTER
203 TRAP

U

204 ULTRA
• **205 UP**
• **206 UPPER**
• **207 UPSTAIRS**
• **208 UTILITY**

V

209 VALVE
210 VAULT
211 VIBRATION
212 VOLTAGE

W

213 WALL
214 WAREHOUSE
215 WASH
• **216 WEST**
• **217 WINDOW**
218 WINE
• **219 WING**
220 WIRELESS
221 WORK

X

222 XMITTER

Y

223 YARD

Z

224 ZONE (No.)
• **225 ZONE**

226 0
227 1
228 1ST
229 2
230 2ND
231 3
232 3RD
233 4
234 4TH
235 5
236 5TH
237 6
238 6TH
239 7
240 7TH
241 8
242 8TH
243 9
244 9TH

250 Custom Word #1 _____

251 Custom Word #2 _____

252 Custom Word #3 _____

253 Custom Word #4 _____

254 Custom Word #5 _____

Note: Bulleted (•) words in **boldface type** are those that are also available for use by the 4285 Voice Module. If using a voice module, and words other than these are selected for Alpha descriptors, the voice module will not provide annunciation of those words.

CHARACTER (ASCII) CHART

(For Adding Custom Words)

32	(space)	42	*	52	4	62	>	72	H	82	R
33	!	43	+	53	5	63	?	73	I	83	S
34	"	44	,	54	6	64	@	74	J	84	T
35	#	45	–	55	7	65	A	75	K	85	U
36	$	46	.	56	8	66	B	76	L	86	V
37	%	47	/	57	9	67	C	77	M	87	W
38	&	48	0	58	:	68	D	78	N	88	X
39	'	49	1	59	;	69	E	79	O	89	Y
40	(	50	2	60	<	70	F	80	P	90	Z
41	)	51	3	61	=	71	G	81	Q		

Section 16. USING *83 MODE TO ADD, DELETE, OR CHANGE SERIAL NUMBERS

Use *83 interactive mode when a wireless transmitter is to be physically added, removed, or simply changed (as when replacing a unit that has a non-removable battery).

By using this mode, you can add, delete, or change the serial number of a transmitter in a zone, but retain all other existing data that has been programmed for that zone.

Certain button type transmitters have more than one button (e.g., 5801). Note that each button must be assigned to a different zone. Similarly, the 5816 transmitter has contact terminals *and* a reed switch for use with a magnet. If using both, each must also be assigned to a different zone.

This means that the procedures that follow must be repeated for each button or contact on the transmitter.

Adding a Serial Number

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the system, power up the system temporarily. If the AC transformer was previously connected to the control panel, plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8+ 0 + 0.**

```
Enter Zn Num.
(00 = Quit)      01
```
Zone Number ↑

3. **Press *83.** A prompt to enter zone number will be displayed.

   Note:
   If a 4219 or 4229 has **not** been used in the system, wireless zones start at zone **10.**
   If a 4219 or 4229 **has** been used in the system, wireless zones start at zone **18.**

```
Enter Zn Num.
(00 = Quit)      18
```
Zone Number entered ↑

4. Enter the zone number to be learned (e.g., zone 18).
5. Press * to continue.

```
18      Input Device
RF Trans.    R F: -
```
Flashing cursor ↑

6. "RF" is initially displayed. If necessary, refer temporarily to **"5800 Series Transmitters Table"** in the WIRELESS EXPANSION section for "Input Type" to be entered for each of the available transmitters. *Available Input Types and their corresponding entries are:*
   0 = not used.
   3 = supervised RF transmitter (RF type)
   4 = unsupervised RF transmitter (UR type)
   5 = RF button type transmitter (BR type)
   When you have entered the appropriate number for the transmitter being programmed, press * to continue.

```
Learn S/N ?
0 = No , 1 = Yes  0
```

7. Press "1" (Yes).

```
Learn S/N ?
0 = No , 1 = Yes  0
```

7. Press "1" (Yes).

```
TRANSMIT NOW
```

8. Activate the transmitter by pressing and releasing its button, opening and closing a contact, etc. A "beep" will be heard. After approximately 8 seconds, activate the transmitter again – 2 "beeps" will occur, indicating that the unit has been accepted into the system.

   Note: A single long beep indicates that that serial number has been previously accepted for the system.

   If necessary, refer temporarily to "**5800 Series Transmitters Table**" in the WIRELESS EXPANSION section for the specific method used to activate each of the available transmitters.

   Press * to continue.

Typical summary display

```
Zn ZT P  RC In: L
18 03 1 3C RF: [3]
                ↑
```

Accepted Input (Loop) Number

9. A summary of the zone programming will be displayed, with a flashing cursor over the learned loop number "L".

```
Enter Zn Num.
(00 = Quit)      19
```

10. Press * to continue to the next zone (if required*). A prompt for an entry for the next zone in numerical order will be displayed.

    * If the transmitter has more than one button, or has contact terminals and a reed switch (such as the 5816), repeat the previous procedure for each of the remaining buttons or contacts (each button, etc., must be assigned to a different zone).

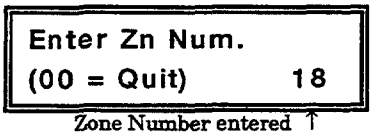
Deleting a Serial Number

1. With at least one 2-line Alpha keypad (5137AD or 6139) connected to the system, power up the system temporarily. If the AC transformer was previously connected to the control panel, plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8+ 0 + 0.**

```
Enter Zn Num.
(00 = Quit)      01
                 ↑
```

Zone Number

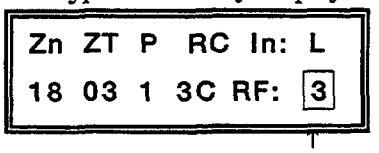
3. **Press *83.** A prompt to enter zone number will be displayed.



Zone Number entered ↑

4. Enter the zone number to which the existing transmitter has been assigned.
5. Press * to continue.

Typical summary display

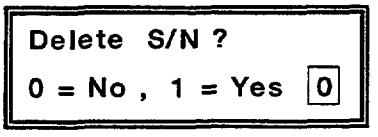


Current Input (Loop) Number with flashing cursor

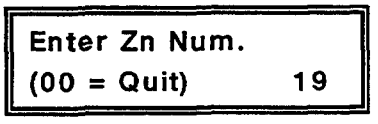
6. A summary display will appear showing current programming for the selected zone.

   Enter "0". This will delete the existing "3".

   Press * to continue.



7. Press "1" for Yes.



8. The serial number for the transmitter in zone 18 has now been deleted, and a prompt to enter the next zone number will automatically be displayed.

   If the transmitter is a multi-button type, the previous steps 4–7 must be repeated for each of the zones that have been assigned to each button.

   If no other transmitter serial numbers are to be deleted, exit by keying **"00"** and pressing the * key.

Changing a Serial Number

Use this procedure if a transmitter in the system has to be replaced for any reason.

Example: A 5803 transmitter's non-replaceable battery has finally run down, and you are going to replace the 5803 with a new unit (which must be assigned to the same zone, of course).

1. Delete the serial number using the procedure described previously in the "Deleting a Serial Number" section.
2. Re-learn the serial number of the new transmitter using the procedure described previously in the "Adding a Serial Number" section.

Section 17. SYSTEM COMMUNICATION

This section provides an explanation of formats this system accommodates for reporting alarms and other system conditions to the central station. The process of a successful transmission consists of both the method of communication between the control panel and the central station receiver and the actual way the information is sent and displayed at the central station.

Report Code Formats

When the panel calls the central station receiver, it waits to hear a "handshake" frequency from the receiver to confirm that the receiver is on-line and ready to receive its message. Once the panel hears the handshake it is programmed to listen for, it sends its message. The panel then waits for a "kissoff" frequency from the receiver acknowledging that the message was received and understood.

If the handshake frequency is not given or is not understood by the panel, the panel will not send its message. Once the handshake frequency is received and understood by the panel, the panel will send its message. If there is an error in the transmission (the receiver does not receive a "valid" message), the kissoff frequency will not be given by the central station receiver.

The panel will make a total of eight attempts to the primary telephone number and eight attempts to the secondary telephone number (if programmed) to get a valid message through. If the panel is not successful after its numerous attempts, the keypad will display "Communication Failure" (Alpha keypad) or "FC" (Fixed-word keypad).

The following chart defines the three sets of (handshake/kissoff) frequencies that the panel supports and the different formats that can be sent for each.

FORMAT	HANDSHAKE	TRANSMITS DATA	KISSOFF	TRANSMIT TIME
Low Speed 3+1 4+1 4+2	1400Hz	1900Hz (10PPS)	1400Hz	Under 15 secs. (Standard report)
Sescoa/Rad 3+1 4+1 4+2	2300Hz	1900Hz (20PPS)	2300Hz	Under 10 secs. (Standard report)
Express 4+2	1400–2300Hz	DTMF (10 cps)	1400Hz	Under 3 secs.
Contact ID	1400–2300Hz	DTMF (10 cps)	1400Hz	Under 3 secs.

The following describes each format in greater detail.

3+1 and 4+1 Standard Formats	Comprise a 3- (or 4-) digit subscriber number and a single digit report code (e.g. Alarm, Trouble, Restore, Open, Close, etc).
3+1 and 4+1 Expanded Formats	Comprise a 3- (or 4-) digit subscriber number, and a two-digit report code. The first digit is displayed on the first line, followed by a second line where the first digit is repeated 3 (or 4) times and followed by the second digit. This is the "expanded" digit.
4+2 Format	Comprises a 4-digit subscriber number and 2-digit report code.
Ademco Contact ID Reporting Format	Comprises a 4-digit subscriber number, 1-digit event qualifier ("new" or "restore"), 3-digit event code, 2-digit Partition No., and 3-digit zone number, user number, or system status number (see the following page).

Report	3+1/4+1 Standard	3+1/4+1 Expanded	4+2
Alarm	SSS(S) A	SSS(S) A AAA(A) Z	SSSS AZ
Trouble	SSS(S) T	SSS(S) T TTT(T) t	SSSS Tt
Bypass	SSS(S) B	SSS(S) B BBB(B) b	SSSS Bb
AC Loss	SSS(S) E	SSS(S) E EEE(E) A_C	SSSS EA_C
Low Batt	SSS(S) L	SSS(S) L LLL(L) L_B	SSSS LL_B
Open	SSS(S) O	SSS(S) O OOO(O) U	SSSS OU
Close	SSS(S) C	SSS(S) C CCC(C) U	SSSS CU
Test	SSS(S) G	SSS(S) G GGG(G)g	SSSS Gg
Restore Alarm	SSS(S) R	SSS(S) R RRR(R) Z	SSSS RZ
AC Restore	SSS(S) R_A	SSS(S) R_A $R_AR_AR_A(R_A)A_c$	SSSSR_A A_c
LoBat Res.	SSS(S) R_L	SSS(S) R_L $R_LR_LR_L(R_L)L_B$	SSSS R_LL_B
Trouble Res.	SSS(S) R_T	SSS(S) R_T $R_TR_TR_T$ (R_T)t	SSSS R_Tt
Bypass Res.	SSS(S) R_B	SSS(S) R_B $R_BR_BR_B$ (R_B)b	SSSS R_Bb

Where:

SSS or SSSS = Subscriber ID
A = Alarm Code–1st digit
Z = Typically Zone Number*–2nd digit
Tt = Trouble Code (1st & 2nd digits)
Bb = Bypass Code (1st & 2nd digits)
EA_C = AC Loss Code (1st & 2nd digits)
LL_B = Low Battery Code(1st & 2nd digits)
O = Open Code–1st Digit
C = Close Code–1st Digit
U = User Number (in hex)
Gg = Test Code (1st & 2nd digits)
R = Restore Code (Alarm)
R_Tt = Restore Code (Trbl)1st & 2nd digits
R_Bb = Restore Code (Byps)1st & 2nd digits
R_AA_C = Restore Code (AC)1st & 2nd digits
R_LL_B = Restore Code (Bat)1st & 2nd digits

*Zone numbers for: [*] & [#], or [B] = 99 [1] + [*], or [A] = 95 Duress = 92
[3] + [#], or [C] = 96 Tamper = 9

Ademco Contact ID Reporting takes the following format:

CCCC Q EEE GG ZZZ

where: CCCC = Customer (subscriber) ID

Q = Event qualifier, where:
E = new event , and R = restore

EEE = Event code (3 hexadecimal digits)
Note: For a complete list of event codes, refer to the central office receiver manual.

GG = Partition Number (system messages show "00")

ZZZ = Zone/contact ID number reporting the alarm, or user number for open/close reports. System status messages (AC Loss, Walk Test, etc.) contain zeroes in the ZZZ location.

TABLE OF CONTACT ID EVENT CODES

Code	Definition
110	Fire Alarm
121	Duress
122	Alarm, 24-hour Silent
123	Alarm, 24-hour Audible
131	Alarm, Perimeter
132	Alarm, Interior
134	Alarm, Entry/Exit
135	Alarm, Day/Night
143	Alarm, Expansion Module
146	Silent Burglary
150	Alarm, 24-Hour Auxiliary
301	AC Power
302	Low System Battery/Battery Test Fail
333	Trouble or Tamper Expansion Module
351	Telco Line Fault
353	Long Range Radio Trouble
373	Fire Loop Trouble
374	Exit Error Alarm

Code	Definition
380	Tamper on Keyswitch, Global Trouble, Trouble Day/Night
381	RF Supervision Trouble
383	RF Sensor Tamper
384	RF Sensor Low Battery
401	Disarmed, Armed AWAY (MAX), Armed AWAY (keyswitch)
406	Cancel by User
407	Remote Arm/Disarm (Downloading)
408	Quick Arm AWAY/MAX
441	Disarmed/Armed STAY/INSTANT, Quick Arm STAY/INSTANT, Armed STAY (Keyswitch),
570	Bypass
602	Periodic Test
606	AAV to follow
607	System Test
623	Event Log 80% Full

Communication Programming

Introduction

This section provides instructions for programming those fields that affect communications between the control and the central station.

Keypad Programming Procedure

1. With at least one Alpha keypad (5137AD or 6139) connected to the system, power up the system. If necessary, refer to the *POWERING THE SYSTEM* section for the power-up procedure If you had previously connected the AC transformer to the control panel, you need only plug in the transformer (to 120VAC outlet) to power up the system.
2. Enter the programming mode by keying the following on the Alpha keypad: **Installer code (4 1 1 2) + 8 0 0.**

Press *40 PABX ACCESS CODE.

[| | |] Enter up to 4 digits if PABX is needed to access an outside line. If fewer than 4 digits are needed to be entered, exit by pressing * and next field number (e.g., 41). To clear entries from field, press *40*.

Fields * 40, * 41, * 42:
Enter up to the number of digits shown. Do not fill unused spaces.
Enter 0–9,
+ 11 for '*'
+ 12 for '#'
+ 13 for a pause (2.5 secs)

Press * 41 PRIMARY PHONE No.

[| | | | | | | | | | | |] Enter up to 12 digits. If fewer than 12 digits entered, exit by pressing * and next field number (e.g., 42). To clear entries from field, press * 41*.

Press * 42 SECONDARY PHONE No.

[| | | | | | | | | | | |] Enter up to 12 digits. If fewer than 12 digits entered, exit by pressing * and next field number (e.g., 43). To clear entries from field, press * .42*.

*For Fields * 43, * 44, * 45, and * 46.*
Entries are provided for 3 or 4 digits for the primary and secondary monitoring location.

Enter digits 0–9; #+10 = A (0 on some receivers); #+11 = B; # +12 = C; # +13 = D; #+14 = E; or # +15 = F.

To clear entries from field, press * 43* , * 44* , * 45* , or * 46* . See blank Programming Form for examples of Account No. entries.

Press * 43 PRIMARY SUBSCRIBER ACCOUNT. No. (Partition 1)

[| | |] (Primary Central Station Account Number).

Press * 44 SECONDARY SUBSCRIBER ACCOUNT. No. (Partition 1)

[| | |] (Secondary Central Station Account Number).

Press * 45 PRIMARY SUBSCRIBER ACCOUNT. No. (Partition 2)

[| | |] (Primary Central Station Account Number).

Press * 46 SECONDARY SUBSCRIBER ACCOUNT. No. (Partition 2)

[| | |] (Secondary Central Station Account Number)

Press * 47 PHONE SYSTEM SELECT Enter 1 digit (default = 0) [ ]

If Central Station Receiver *is not* on WATS line:
0 = Pulse Dial, 1 = Tone Dial.

If Central Station Receiver *is* on WATS line:
2 = Pulse Dial, 3 = Tone Dial.

Press * 48 REPORT FORMAT, PRIMARY/SECONDARY

Primary ☐ Secondary ☐

Determines which format is to be used to report to the central station.

0 = 3+1; 4+1 ADEMCO Lo Speed Standard **(this is the default)**

1 = 3+1; 4+1 Radionics Standard

2 = 4+2 ADEMCO Lo Speed Standard

3 = 4+2 Radionics Standard

6 = 4+2 ADEMCO Express

7 = ADEMCO Contact ID Reporting

8 = 3+1; 4+1 ADEMCO Lo Speed Expanded

9 = 3+1; 4+1 Radionics Expanded

(Enter * as the 4th digit of * 43 through * 46, if 3+1 dialer reporting is to be used.)

Note: The maximum number of alarm and alarm restore reports during one armed period is determined by field * 93.

Press * 49 SPLIT/DUAL REPORTING ☐

Enter 0 to disable (Backup report only). **This is the default.**

	TO PRIMARY	TO SECONDARY
1 =	Alarms, Restore, Cancel	Others
2 =	All except Open/Close, Test	Open/Close, Test
3 =	Alarms, Restore, Cancel	All
4 =	All except Open/Close, Test	All
5 =	All	All

Press * 50 15-SECOND DIALER DELAY, BURGLARY ☐

Enter 0 for no, or 1 for yes. Default is **0** (no delay).
Enter "0" for UL installations.

Press * 51 PERIODIC TEST REPORT ☐

Select the desired test report interval.
0 = none; 1 = 24 hours; 2 = weekly; 3 = 30 days. Default is **0** (none). Test Report Code entered in field * 64 is sent. Reports with Partition 1 Subscriber No.

Press * 52 TEST REPORT OFFSET ☐

This is the time to first report after exiting from programming or downloading.
0 = 24-hour; 1 = 6 hours; 2 = 12 hours; 3 = 18 hours. Default is **2.**

Press * 53 SESCOA/RADIONICS SELECT ☐

0 = Radionics (0–9, B–F reporting)
1 = SESCOA (0–9 only reporting)
Select 0 for all other formats. Default is **0.**

TO PROGRAM SYSTEM STATUS AND RESTORE REPORT CODES (* 59 – * 76, & * 89)

The following is a set of guidelines to be used for programming report codes. The actual digits that you enter depend upon the particular installation, and should be in agreement with you and the central station office receiving the signals. Use these guidelines to program this entire section.

With a 3+1 or 4+1 Standard Format: Enter a code in the *first* box: 1–9, A, B, C, D, E, or F. Enter "#+10" for A (this reports a "0" on some receivers), "#+11" for B, "#+12" for C, "#+13" for D, "#+14" for E, "#+15" for F.

An entry of "0" in the *first* box will disable a report.

An entry of "0" in the *second* box will result in automatic advance to the next field when programming.

With an Expanded or 4+2 Format: Enter codes in *both* boxes (1st and 2nd digits) for 1–9, or A–F, as described above.

An entry of "0" in the *first* box will disable a report.

An entry of "0" in the *second* box will eliminate the expanded message for that report.

With Ademco Contact ID Reporting: Enter a digit in the *first* box to enable the zone to report. Use a different digit for each zone until you have used up available digits. If the number of zones exceeds the number of available digits, begin with digit 1 again. This is an "enabling" code only and is not the actual code sent to the central station office. Entries in the *second* boxes will be ignored. For system status (non-alarm) codes, enter a "1" in the first box for all the system conditions you want to send to the central station.

An entry of "0"in the *first* box will disable the report.

Press * 59 EXIT ERROR REPORT CODE [ ]

If "0" is entered in this field, no special message will be sent, only the regular alarm and alarm restore code for the zone. If a non-zero code is entered, this message will be sent if an alarm occurs within 2 minutes after the end of the Exit time.

Refer to *Section 19. DATA FIELD DESCRIPTIONS* for a detailed description of this option.

Field *59 entry note: The 2nd digit is automatically sent as the 2nd digit of the zone alarm report code programmed in * 56, if expanded or 4+2 reporting is selected.

Press *60 TROUBLE REPORT CODE [1]

This will be sent if a zone goes into trouble.

Press *61 BYPASS REPORT CODE [1]

This will be sent when a zone is manually bypassed.

Press *62 AC LOSS REPORT CODE [1]

Reports with Partition 1 Subscriber No. Timing of this report is random with up to a 4-hour delay. If AC restores before the report goes out, there is no AC restore report.

Press * 63 LOW BAT REPORT CODE [1]

This will be sent when a low battery condition exists in the system's standby battery. Reports with Partition 1 Subscriber No.

Press *64 TEST REPORT CODE [1]

This is sent periodically to test that the communicator and phone lines are operational (frequency of report is selected in field *51). Reports with Partition 1 Subscriber No.

Press *65 OPEN REPORT CODE Part'n 1[ ] Part'n 2[ ]

This is sent upon disarming of the system. 2nd digit = User No., if expanded or 4+2 reporting is selected.

See TO PROGRAM SYSTEM STATUS AND RESTORE REPORT CODES explanation on previous page for fields *66–*76, and *89.

Press *66 ARM AWAY/STAY REPORT CODE Part'n 1 [ ][ ] Part'n 2 [ ][ ]
AWAY STAY AWAY STAY

This option allows for independent programming of AWAY and STAY reports for each partition. 2nd digit of Report is User No., if expanded or 4+2 reporting is selected.

Press *67 RF XMTR. LOW BATTERY REPORT CODE [ ]

This is sent in the event that a wireless transmitter low battery condition exists.

Press *68 CANCEL REPORT CODE [ ]

This is sent upon disarming of the system after an alarm condition was reported.

Press *70 ALARM RESTORE REPORT CODE, 1st DIGIT [ ]

This is sent when the zone that caused an alarm is restored to its non-faulted condition. 2nd digit is automatically sent as the 2nd digit of the zone alarm report code programmed in field *56, if expanded or 4+2 reporting is selected.

Press *71 TROUBLE RESTORE REPORT CODE [ ]

This is sent when a trouble in a zone is restored.

Press *72 BYPASS RESTORE REPORT CODE [ ]

This is sent when a zone that has been bypassed is un-bypassed.

Press *73 AC RESTORE REPORT CODE [ ]

This is sent when AC power has been restored after an AC power outage. Reports with Partition 1 Subscriber No.

Press *74 LOW BAT RESTORE REPORT CODE [ ]

This is sent when a system low battery condition is restored to normal.

Press *75 RF XMTR. LOW BATTERY RESTORE CODE [ ]

This is sent when a transmitter that previously sent in a low battery message has sent a message indicating it no longer has a low battery condition.

Press *76 TEST RESTORE REPORT CODE [ ]

This is sent when the test mode is exited. Reports with Partition 1 Subscriber No.

Press *89 EVENT LOG 80% FULL REPORT CODE [ ]

If an Event Logging selection is made in field *90, a message can be sent to the central station receiver when the log is 80% full.

Note: Aside from the selection made by the installer in field *90, all log control and readout is accomplished via the Downloader.

Press *90 EVENT LOGGING [ ]

0 = None; 1 = Alarm/Alarm Restore; 2 = Trouble/Trouble Restore; 4 = Bypass/Bypass Restore; 8 = Open/Close. Default is "3".

Example: To select "Alarm/Alarm Restore", and "Open/Close", enter 9 (1 + 8); to select all, enter #15.

Note: System messages are logged when non-zero selections are made. See Fields *89 and *90 in *Section 19. DATA FIELD DESCRIPTIONS* for a more detailed description of Event Logging.

Press *90 EVENT LOGGING ☐

0 = None; 1 = Alarm/Alarm Restore; 2 = Trouble/Trouble Restore; 4 = Bypass/Bypass Restore; 8 = Open/Close. Default is "3".

Example: To select "Alarm/Alarm Restore", and "Open/Close", enter 9 (1 + 8); to select all, enter #15.

Note: System messages are logged when non-zero selections are made. See Fields *89 and *90 in *Section 19. DATA FIELD DESCRIPTIONS* for a more detailed description of Event Logging.

Press *92. PHONE LINE MONITOR ENABLE. ☐

0 = Not used (default)

1 = Local keypad display only when phone line is faulted.

2 = Local keypad display plus keypad trouble sound when line is faulted. Each partition turns off its own trouble sound. No automatic timeout.

3 = Same as "2" above plus Device No. 2 STARTS. If either partition is armed, external sounder activates. External sounder will be turned off by normal bell timeout, or by security code plus OFF *from either partition* (it does not have to be the one that was armed).

Device number 2 must either be programmed to be STOPPED in field *80 or STOPPED by entry of **security code + # + 8 + 2**. Partition in *80 should be set to "0" for STOP.

Press *93 NUMBER OF REPORTS IN ARMED PERIOD ☐

"0" limits reports to a total of 10 per code; "1" allows an unlimited number of alarm plus alarm restore reports. Default is **0**.
Enter "1" for UL installations.

Press *94 DOWNLOAD PHONE NUMBER

| | | | | | | | | | | | | Enter up to 12 digits;

0–9, # +11 for "*", # + 12 for "#", # + 13 for a pause. Do not fill unused spaces. End field by entering "*". To clear entries, press *94*.

Press *95 RING DETECTION COUNT FOR DOWNLOADING ☐

Refer to the chart below and program this field accordingly.

Voice Module	Answering Machine	Downloading	Field *95 Programming
Yes	No	No	Set for value other than "0" (1–15). This will enable the control panel to answer the phone call. Otherwise, it won't be possible to access the Module.
Yes	Yes	No	Set for a value higher than the number of rings for which the answering machine is set. Example: if machine is set for 4 rings, use value 5 or higher. This is recommended so that the Voice Module can still be accessed if the answering machine is turned off and does not answer the phone call.
Yes	No	Yes	Set for value other than "0" (1–15).
Yes	Yes	Yes	"15" to bypass answering machine.
No	No	No	Enter "0"
No	Yes	No	Enter "0"
No	No	Yes	Enter 1–15
No	Yes	Yes	Enter 15

***96 INITIALIZE DOWNLOAD ID AND SUBSCRIBER ACCT. No. FOR DOWNLOADING** (No data entry required)

This completes the communication programming.

Exit the programming mode by keying *99.

Refer to *Section 21. TESTING THE SYSTEM* to check system operation.

Section 18.
ZONE RESPONSE TYPE DEFINITIONS

General Information

You must assign a zone type to each zone, which will then define the way in which the system will respond to faults in that zone. Zone types are defined below.

Type 00 Zone Not Used

Program a zone with this zone type if the zone is not used.

Type 01 Entry/Exit Burglary #1

This zone type provides exit and entry delays whenever the zone is faulted if the control is armed in the Away or Stay modes. When the panel is armed in the Instant or Maximum modes, no entry delay is provided. Entry delay #1 is programmable, but Exit delay is automatically set as follows:

Exit Delay = Entry Delay (that has been programmed) +40 seconds.

Exit delay begins whenever the control is armed, regardless of the arming mode selected. This zone type is usually assigned to sensors or contacts on doors through which primary entry and exit will take place.

Type 02 Entry/Exit Burglary #2

This zone type provides a secondary entry delay whenever the zone is faulted if the panel is armed in the Away and Stay modes. When the panel is armed in the Instant or Maximum modes, no entry delay is provided. Entry and Exit delays #2 are automatically set as follows:

Entry delay #2 = programmed Entry delay #1 + 30 seconds.

Exit delay #2 = programmed Entry delay #1 + 40 seconds.

Exit delay #2 begins whenever the control is armed, regardless of the arming mode selected.

This zone type is usually assigned to sensors or contacts on doors through which secondary entry and exit will take place, and where more time might be needed to get to and from the keypad (typically used for a garage, loading dock, or basement door).

Type 03 Perimeter Burglary

This zone type gives an instant alarm if the zone is faulted when the panel is armed in the Away, Stay, Instant or Maximum modes. This zone type is usually assigned to all sensors or contacts on exterior doors and windows.

Type 04 Interior, Follower

This zone type gives a delayed alarm (using the programmed Entry/Exit time) if the Entry/Exit zone is faulted first. Otherwise this zone type gives an instant alarm. This zone type is active when the panel is armed in the Away and Maximum modes. **This zone type is bypassed automatically when the panel is armed in the Stay or Instant modes.** This zone type is usually assigned to a zone covering an area such as a foyer, lobby, or hallway through which one must pass upon entry (After faulting the entry/exit zone to reach the keypad to disarm the system.)

Since this zone type is designed to provide an instant alarm if the entry/exit zone is not violated first, it will protect an area in the event an intruder hides on the premises prior to the system being armed, or gains access to the premises through an unprotected area.

Type 05 Trouble by Day/ Alarm by Night

This zone type will give an instant alarm if faulted when armed in the Away, Stay, Instant or Maximum (night) modes. During the disarmed state (day), the system will provide a latched trouble sounding from the keypad (and a central station report, if desired). This zone type is usually assigned to a zone which contains a foil-protected door or window (such as in a store), or to a zone covering a "sensitive" area such as a stock room, drug supply room, etc. This zone type can also be used on a sensor or contact in an area where immediate notification of an entry is desired.

Type 06 24-hour Silent Alarm

This zone type sends a report to the Central Station but provides no keypad display or sounding. This zone type is usually assigned to a zone containing an Emergency button.

Type 07 24-hour Audible Alarm

This zone type sends a report to the Central Station, and provides an alarm sound at the keypad, and an audible external alarm. This zone type is usually assigned to a zone that has an Emergency button.

Type 08 24-hour Auxiliary Alarm

This zone type sends a report to Central Station and provides an alarm sound at the keypad. **(No bell output is provided).** This zone type is usually assigned to a zone containing a button for use in personal emergencies, or to a zone containing monitoring devices such as water or temperature sensors, etc.

Type 09 Supervised Fire (With Verification on Zone 1)

This zone type provides a fire alarm on short circuit and a trouble condition on open circuit. The bell output will pulse when this zone type is alarmed. This zone type is always active and cannot be bypassed. **This zone type can be assigned to a control panel basic wired zone, any zone in a wired zone expansion module, or wireless zones.** When used with zone 1 on the panel, 2-wire smoke detectors can be used. For an explanation of the "verification" function, refer to the "Operation" paragraph in a previous section titled **2-Wire Smoke Detector Installation.**

Note: Only hardwired zone 1 can be programmed as a fire zone in UL installations. However, any wireless zone can be used as a fire zone.

Type 10 Interior w/Delay

This zone type gives entry delay #1 (using the programmed entry time), if tripped when the panel is armed in the Away mode. Entry delay begins whenever sensors in this zone are violated, regardless of whether or not an entry/exit delay zone was tripped first. *No entry delay* is provided if tripped when the panel is armed in the Maximum mode. *Exit* delay is present for *any* arming mode. **This zone type is bypassed when the panel is armed in the Stay or Instant modes.**

Type 20 Arm–Stay

This is a special-purpose zone type used with 5800 series wireless pushbutton units which will result in arming the system in the STAY mode when the zone is activated. Pushbutton units send zone number as a user number to central station when arming or disarming.

Type 21 Arm–Away

This is a special-purpose zone type used with 5800 series wireless pushbutton units which will result in arming the system in the AWAY mode when the zone is activated. Pushbutton units send zone number as a user number to central station when arming or disarming.

Type 22 Disarm

This is a special-purpose zone type used with 5800 series wireless pushbutton which will result in disarming the system when the zone is activated.

Type 23 No Alarm Response

This zone type can be used on a zone when an output relay action is desired, but with no accompanying alarm (e.g., lobby door access).

Type 24 Silent Burglary

This zone type provides an instant alarm, with NO audible indication at any keypad or external sounder, if the zone is faulted when the system is armed in the AWAY, STAY, INSTANT, or MAXIMUM modes. This zone type is usually assigned to all sensors or contacts on exterior doors and windows where audible notification is NOT desired. A report is sent to the Central Station.

NOTE: All of the zone types described are available for the wireless portion of the system, if used.

Section 19. DATA FIELD DESCRIPTIONS

Descriptions of System Data Fields

THE BLANK PROGRAMMING FORM SHOULD BE USED TO RECORD THE DATA FOR THIS INSTALLATION

Defaults (where applicable) Are Indicated In Text

The following is a listing of all data fields in this control (presented in numerical order). If you have performed the programming instructions that were included with the installation of each of the various peripheral devices covered in previous sections, this table will simply serve as a reference for all data fields in the system. If you have decided to program all the data fields in the system at one time (and therefore did not perform the programming indicated previously in each section), you can use this listing to program all the data fields now.

***20 INSTALLER CODE** [| | |]

The Installer code is used to enter the 4-digit Master security code for each partition **in the normal operation mode**, via the keypad connected to Partition 1. See "Master Code" in the *SYSTEM OPERATION* section for procedure.

Enter 4 digits, 0–9. Default is **4-1-1-2.**

***21 QUICK ARM ENABLE** Partition 1 [ ] Partition 2 [ ]

If enabled, the [#] key can be used instead of the security code when **arming** the system.

Enter 0 for disabled or 1 for enabled for each partition. Default is **0.**

***22 RF SYSTEM** [ ]

This option is enabled (1) if a wireless receiver is used.

Enter 1 if 5881/5882 RF receiver is being used; enter 0 if no receiver is being used. Default is **0** (none).

***23 FORCED BYPASS FUNCTION** Partition 1 [ ] Partition 2 [ ]

This feature allows all faulted zones to be bypassed automatically. All zones that are bypassed by this function will be displayed after the bypass is initiated. Enter, for each partition:

0 = No forced bypass. **This is the default.**

1 = Allows automatic bypass of all open zones.

Enter "0" for UL installations.

***24 RF HOUSE ID CODE** [|]

The House ID identifies receivers and wireless keypads.

If a 5827 or 5827BD Wireless keypad is to be used, a House ID code MUST be entered (01–31), and the keypad should be set to the same ID. If no wireless keypad is to be used, enter 00.

Partition 2 House ID = entered Partition 1 ID + 1 (use 01–30 for partition 1 if wireless keypads are used in both partitions).

***25 WIRED ZONE EXPANSION** [ ]

Use this field to select the type of expansion unit being used, as follows:

0 = none; 1 = 4219; 2 = 4229; 3 = 4204. Default is **0.**

***27 POWERLINE CARRIER DEVICE (X-10) HOUSE ID** ☐

Powerline Carrier devices require a House ID. This field identifies this house ID to the control.

If Powerline Carrier devices are used, they are selected in field * 80.

House ID is entered in following manner:

0 = A, 1 = B, 2 =C, 3 = D, 4 = E, 5 = F, 6 = G, 7 = H, 8 = I, 9 = J, # + 10 = K, # + 11 = L, # + 12 = M, # + 13 = N, # + 14 = O, # + 15 = P.

Default is **0**.

***28 VOICE MODULE PHONE CODE** [1]

The use of a 4285 Voice Module (can be used in Partition 1 only) requires a 2-digit code.

Enter a 2-digit phone access code as follows: For first digit, enter any any digit from 1 to 9; for second digit, enter # +11 for "*", or # +12 for "#".

Example: If desired access code is 7* , **7** is the first entry, and **# + 11** (for *) is the second entry.

***29 OUTPUT TO LONG RANGE RADIO** (No. 7720 PLUS/7820) ☐

If output to LRR is selected here, all messages that are programmed to go to the primary telephone line receiver will also be sent to the 7720 PLUS or 7820 radio. These messages will always be in Contact ID format (not affected by entry in field *48). The data line is supervised as well as certain functions in the radio. If communication is lost or a trouble develops, a message will be attempted to be sent via both radio and telephone to the central station.

Note: Normal trouble restore report (*71) is sent on restore of the condition.

Entry is first digit of Trouble Dialer Report; enter Trouble code 1–9, B (# +11), C (# +12), D (# +13), E (# +14), or F (# +15). The 2nd digit of Trouble Dialer Report is automatically the 2nd digit from field *60. **For UL installations, Long Range Radio must be disabled (enter "0").**

Note: The Radio should be programmed for device address 3 on the keypad lines.

***30 KEYSWITCH ENABLE** ☐

This field must be enabled (enter 1) if using a keyswitch. The keyswitch must be connected to zone 7, which can then not be used for any other purpose. Default is **0** (no keyswitch).

- If keyswitch is enabled, in menu mode *56 the Zone Type (ZT) for zone 7 will show "77", and the zone will not be accessible for programming.
- If the 4146 keyswitch is used with only Red and Green LEDs connected (no lock switch and tamper switch) to simply provide an arming/ready status indicator panel, zone 7 can then be used as a hard-wired protection zone, **provided you do not enable this field.**

ZONE SOUNDS AND TIMING (*32–*38)

***32 SINGLE ALARM SOUNDING PER ZONE** (per armed period) ☐

This field limits alarm sounding to once per arming period for a given zone. Enter 1 for yes; default is **0** (no). **Enter "0" for UL installations.**

***33 FIRE SOUNDER TIMEOUT** ☐

This field determines whether the external sounder will shut off after time allotted, or continue until manually turned off. Enter 0 for sounder timeout, or 1 for no timeout. Default is **0**.

Enter "0" for UL installations.

***34 ALARM BELL TIMEOUT** ☐

This field determines whether the external sounder will shut off after time allotted, or continue until manually turned off. Enter as follows: 0 = No timeout; 1 = 4 min (default); 2 = 8 min; 3 = 12 min.

Alarm bell timeout must be set for a minimum of 4 min ("1") for UL installations.

***35 ZONE TYPE 01 ENTRY DELAY** Partition 1 ☐ Partition 2 ☐

System will wait the time allotted before sounding alarm upon entering. May be selected individually for each Partition.

0 = 0 seconds 2 = 30 seconds 4 = 60 seconds
1 = 20 seconds 3 = 45 seconds 5 = 90 seconds

Default is **2** (30 seconds). **Entry delay must be set for a maximum of 20 seconds in UL installations.**

Zone Type 02 Entry Delay = Zone Type 01 Entry Delay + 30 seconds.
(EXIT delays = Zone type 01 Entry delay plus 40 seconds).

***36 AUDIBLE EXIT WARNING** Partition 1 ☐ Partition 2 ☐

If enabled, this field provides exit warning sound when armed AWAY; it can be selected for either or both Partitions.
Warning sound consists of slow continuous beeps until last 5 seconds, when it changes to fast beeps. The warning sound will end at the termination of Exit time.
0 = no; 1 = yes. Default is **1**.

***37 CONFIRMATION OF ARMING DING** Part'n 1 ☐ Part'n 2 ☐

Enter 1 (in either or both Partitions) to enable 1/2 second external alarm sounding "ding" when closing report goes in, or at the end of exit delay. **0** disables the "ding" (default).

***38 POWER UP IN PREVIOUS STATE** ☐

Enter **1** for Yes (default) if, upon power-up, you want the system to assume the system status prior to power down. Enter **0** if you want the system to always power up in a disarmed state.

When the system powers up armed, an alarm will occur 1 minute after arming if a zone is faulted. **Must be "1" for UL installations.**

Note that if the previous state was armed AWAY or STAY, the system will not respond to sensor changes for 1 minute, which allows time for sensors such as PIRs to stabilize.

DIALER PROGRAMMING (*40–*50)

***40 PABX ACCESS CODE** (See Box at Left) | | | |

Enter up to 4 digits if PABX is needed to access an outside line. If fewer than 4 digits are needed to be entered, exit by pressing * and next field number (e.g., 41). To clear entries from field, press ***40***.

Fields *40, *41, *42: Enter up to the number of digits shown. Do not fill unused spaces.
Enter 0–9,
+ 11 for '*'
+ 12 for '#'
+ 13 for a pause (2.5 secs)

***41 PRIMARY PHONE No.** (See Box at Left)

| | | | | | | | | | | | |

Enter up to 12 digits. If fewer than 12 digits entered, exit by pressing * and next field number (e.g., 42). To clear entries from field, press ***41***.

Note: Back-up reporting (8 calls are made to the secondary phone number if no kiss-off is received after 8 attempts to the primary number) is automatic only if there is a secondary phone number (field *42).

***42 SECONDARY PHONE No.** (See Box at Left)

| | | | | | | | | | | | |

Enter up to 12 digits. If fewer than 12 digits entered, exit by pressing * and next field number (e.g., 43). To clear entries from field, press ***42***. See Note above, also.

*For Fields *43, *44, *45, and *46.*

Entries provided for up to 4 digits for primary office and 4 digits for secondary.

Enter digits 0–9; # +11=B; # +12=C; # +13=D; # +14=E; or # +15=F. Enter * as the fourth digit if a 3-digit account number (for 3+1 dialer reporting format) is used. Enter 0 as the first digit of a 4-digit account number for Nos. 0000–0999. Exit field by pressing * (and press next field number) if only 3 digits are used.

To clear entries from field, press *43*, *44*, *45* or *46*.

See blank Programming Form for examples of Account No. entries.

***43** **PRIMARY SUBSCRIBER ACCOUNT. No.** (partition 1)

[| | |] Primary Receiver — See notes above.

***44** **SECONDARY SUBS ACCOUNT. No.** (partition 1)

[| | |] Secondary Receiver — See notes above.

***45** **PRIMARY SUBSCRIBER ACCOUNT. No.** (partition 2)

[| | |] Primary Receiver — See notes above.

***46** **SECONDARY SUBS ACCOUNT. No.** (part. 2)

[| | |] Secondary Receiver — See notes above.

***47** **PHONE SYSTEM SELECT** [ ]

Enter 1 digit. Default is **0**.

If Central Station Receiver *is not* on WATS line:
0 = Pulse Dial 1 = Tone Dial

If Central Station Receiver *is* on WATS line:
2 = Pulse Dial 3 = Tone Dial

***48** **REPORT FORMAT** Primary [ ] Secondary [ ]

Determine which format is to be used to report to the central station. Enter 1 digit (0–9).

0 = 3+1; 4+1 ADEMCO Lo Speed Standard **(this is the default)**
1 = 3+1; 4+1 Radionics Standard
2 = 4+2 ADEMCO Lo Speed Standard
3 = 4+2 Radionics Standard
6 = 4+2 ADEMCO Express
7 = ADEMCO Contact ID Reporting
8 = 3+1; 4+1 ADEMCO Lo Speed Expanded
9 = 3+1; 4+1 Radionics Expanded

(Enter * as the 4th digit of *43 through *46, if 3+1 dialer reporting is to be used.)

For an explanation of these formats, see *Section 17. SYSTEM COMMUNICATION*.

Note: The maximum number of alarm and alarm restore reports during one armed period is determined by field *93.

***49 SPLIT/DUAL REPORTING** ☐

Enter 0 to disable (Backup report only). **This is the default.**

	TO PRIMARY	TO SECONDARY
1 =	Alarms, Restore, Cancel	Others
2 =	All except Open/Close, Test	Open/Close, Test
3 =	Alarms, Restore, Cancel	All
4 =	All except Open/Close, Test	All
5 =	All	All

***50 15-SECOND DIALER DELAY (BURGLARY)** ☐

If selected, will provide 15-second delay of burglary alarm report to the central station. Allows time for subscriber to avoid a false alarm transmission.

Enter 0 for no or 1 for yes. Default is **0** (no delay).

Enter "0" for UL installations.

***51 PERIODIC TEST REPORT** ☐

Select the desired test report interval.

0 = none; 1 = 24 hours; 2 = weekly; 3 = 30 days. Default is **0** (none).

Test Report Code entered in field *64 is sent.
Reports with Partition 1 Subscriber No.

***52 TEST REPORT OFFSET** ☐

This is the time to first report from programming or downloading.
0 = 24 hours; 1 = 6 hours; 2 = 12 hours; 3 = 18 hours. Default is **2.**

***53 SESCOA/RADIONICS SELECT** ☐

0 = Radionics (0–9, B–F reporting)
1 = SESCOA (0–9 only reporting)
Select 0 for all other formats. Default is **0.**

***56 ZONE ASSIGNMENT/ALARM REPORT CODES (and RF Input ID Learning for 5800 System)**

*REFER TO THE ZONE ASSIGNMENT TABLE FOR *56 IN THE CENTERFOLD PROGRAMMING FORM .*

This is an interactive menu mode that is used to program zone numbers, zone types, partition numbers, alarm and report codes, and to identify the type of loop input device. This mode can also be used for "learning" 5800 series transmitter ID codes and for entering Alpha descriptors for zones (we recommend entering descriptors in menu mode *82.

Upon entry menuu mode *56, the following is displayed:

Enter Zn Num.
(00 = Quit) 20

Zone 20 entered ↑

Zone Number (Zn): Enter the zone number that you wish to program (or [0][0] to leave zone programming).

Zn ZT P RC In: L
20 09 1 10 RF: -

Press [*]. A summary display will come up, showing the status of that zone's program.

If it is programmed satisfactorily, press [#] to back up one step and enter another zone number, if desired.

If the zone is not programmed, or you want to change it, press [*]. A prompt for Zone Type will appear.

↓ Zone Number

```
20 Zone Type
Perimeter      03
```

Zone Type ↑

Zone Type (ZT): Each zone must be assigned to a zone type, which defines the way in which the system responds to faults in that zone. Enter the zone type code (or change it, if necessary). Zone types are listed below.

00 = Not Used
01 = Entry/Exit #1
02 = Entry/Exit #2
03 = Perimeter
04 = Interior Follower
05 = Trouble Day/Alarm Night
06 = 24 Hr Silent
07 = 24 Hr Audible
08 = 24 Hr Aux
09 = Fire W/verif.
10 = Interior w/Delay
20 = Arm–Stay
21 = Arm–Away
22 = Disarm
23 = No Alarm Response
24 = Silent Burglary

Default values for zones 01 to 08 are:

Zone No.(Zn):	01	02	03	04	05	06	07	08
Zone Type Default:	09	01	03	03	03	03	03	03
Partition Default	1	1	1	1	1	1	1	1
Response Time Default *	1	1	1	1	1	1	1	1

* "1" for response time = 350 msec.

When the display shows the zone type you want, press [*] to advance to...

```
20 Partition
                1
```

Partition No. (P) (Default = [1].
Enter "1" or "2".
Press [*] to advance to...

```
20 Report Code
1st 00  2nd 00   00
```

Report Code (RC): The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C".
Enter the numbers and press [*] to advance to...

```
20 Input Type
RF Trans. RF:
```

Input Device (In): For the hardwired zones of the ***VISTA–20*** (HW), the auxiliary wired expansion zones on a 4219 or 4229 (AW), the Input Device types are automatically displayed (Panic, Duress, and Tamper inputs are not applicable).

For a 5800 system's transmitters, "RF" is initially displayed, but should be changed to "UR" (Unsupervised RF, enter 4) for units that can be carried off-premises (e.g., No. 5801), or to "BR" (Button type RF, enter 5) for small transmitters that cannot be supervised (e.g., Nos. 5802, 5802CP, 5803). Refer temporarily to the "5800 Series Transmitters Table" in *Section 7. WIRELESS EXPANSION (5800 SYSTEM)* for the specific procedure required to "learn" a particular transmitter.
When all is okay, press [*] to advance to...

```
20 Learn S/N ?
0 = No  1 = Yes  0
```

Learning RF Input (L): ***Applicable to a 5800 RF system (if used).***
This request will be to learn the transmitter serial number. (The serial numbers can be learned here or via *83 Mode, or entered via the downloader). We recommend that you use *83 mode if you are only changing a wireless transmitter, and wish to maintain the other zone parameters.

TRANSMIT NOW

If "yes" is selected in response to the previous prompt, the "Transmit Now" display will appear.

Open and close (or close and open), or press and release the particular input to the transmitter twice. After the first time, a single short beep will occur. After the second time, two short beeps will mean that the control has accepted that transmitter into the system. The display will revert to the summary line, with the accepted input (loop) number under the "L" in the display. **Because of the characteristics of the receiver, allow about 8 seconds between first and second transmissions from button (BR) units (e.g., 5802, 5802CP, 5803).** If a long beep occurs, it means that the particular transmitter input has previously been learned in the system. *Mark the zone number on the transmitter.*

Typical Summary Display

Zn ZT P RC In: L
20 03 3C RF: 2

Accepted Input (Loop) Number ↑

After a transmitter has been learned, a summary of the programmed values for the selected zone will be displayed.

If all is okay, press [*].

Program Alpha?
0 = No 1 = Yes 0

Custom Alpha Editing: For all zone types, the next request is to enter Alpha descriptors for the zones. The entry may be done now (enter 1), or may be done at a later time via *82 mode (enter 0).

See *Section 15. ALPHA DESCRIPTION PROGRAMMING* for procedure.

Enter Zn Num.
(00 = Quit) 00

When all entries to be made for the zone at this time are complete, the next zone number can be entered for programming, or zone programming can be ended by entering [0][0] as the next "zone number".

Notes:

1. *When using a 5801,* the Input (Loop) "4" button should always be used and learned by the system first.
2. *In field *56, at the summary line for each zone, the entered values can be checked.* If it is desired to change anything, press [#] to move to the previous entry. Press [#] a number of times to move to earlier entries. Press [*] to move to later entries again.
3. *Zone entries can be reviewed* by pressing [#][5][6]. Changes cannot be made here, so this is safer for review. Enter the first zone number to be viewed and press [#]. To view each zone, press [#] and the zone number will advance to the next programmed zone. When the end of the list is reached, press [0][0] to exit. This method of exiting may also be done at any time during the review.

20 Zone Type
Not Used 00

20 Delete Zone?
1 = Yes 0 = No

4. *To either temporarily or permanently remove a zone from the system,* go into programming mode and press [*][5][6]. Enter the zone number and press [*]. At the "Zone Type" prompt, enter [0][0] and [*]. This sets the type of the zone to "Not Used". The next prompt will be "Delete Zone?". "Yes" will permanently remove the zone from the system, while "No" will disable it but retain all data except the original zone type. You can then go back to this zone later and put back an active Zone Type to re-enable it.
5. *An ID code that has been learned for a 5800 system will not be deleted* if the zone is disabled as described above. *If only the physical transmitter is to be removed or changed (i.e., its ID code deleted, as when replacing a unit that has a non-removable battery), it can be done in field *56 or *83.* In the programming mode, press [*][5][6], enter the zone number, and press [*] multiple times until the cursor is under the Learned RF Input (L) position. This is the specific input (loop) or button on the transmitter that has been learned for that zone. If a [0] is entered at this point, a prompt "Delete S/N?" will appear. If "Yes" is entered, this specific ID code will be deleted from the system.

TO PROGRAM SYSTEM STATUS AND RESTORE REPORT CODES (* 59 –* 76, & * 89)

The following is a set of guidelines to be used for programming report codes. The actual digits that you enter depend upon the particular installation, and should be in agreement with you and the central station office receiving the signals. Use these guidelines to program this entire section.

With a 3+1 or 4+1 Standard Format: Enter a code in the *first* box: 1–9, A, B, C, D, E, or F. Enter "#+10" for A (this reports a "0" on some receivers), "#+11" for B, "#+12" for C, "#+13" for D, "#+14" for E, "#+15" for F.

An entry of "0" in the *first* box will disable a report.

An entry of "0" in the *second* box will result in automatic advance to the next field when programming.

With an Expanded or 4+2 Format: Enter codes in *both* boxes (1st and 2nd digits) for 1–9, or A–F, as described above.

An entry of "0" in the *first* box will disable a report.

An entry of "0" in the *second* box will eliminate the expanded message for that report.

With Ademco Contact ID Reporting: Enter a digit in the *first* box to enable the zone to report. Use a different digit for each zone until you have used up available digits. If the number of zones exceeds the number of available digits, begin with digit 1 again. This is an "enabling" code only and is not the actual code sent to the central station office. Entries in the *second* boxes will be ignored. For system status (non-alarm) codes, enter a "1" in the first box for all the system conditions you want to send to the central station.

An entry of "0"in the *first* box will disable the report.

SYSTEM STATUS REPORT CODES (*59–*68)

***59 EXIT ERROR REPORT CODE** (See box above.) [ ]

If the system is armed and an Entry/Exit or Interior zone is still open after the exit delay time has expired, an alarm will sound at the keypad and external sounder (keypad also displays "Exit Alarm"). If the system is disarmed before the end of the entry delay that immediately follows, the alarm sounding will stop **and no message will be sent to the central station**. The keypad will display CA (fixed-word keypads) or CANCELLED ALARM (Alpha keypads).

If the system is **not** disarmed before the end of the entry delay mentioned above, and an Entry/Exit or Interior zone is still open, **an "exit alarm" message will be sent to the central station if an Exit Error Report code is selected in this field.** The keypad will display EA (fixed-word keypads) or EXIT ALARM (Alpha keypads), and the alarm sounding will continue until the system is disarmed (or timeout occurs).

An "Exit Alarm " condition will also result if a fault occurs in an exit or interior zone within 2 minutes following the end of the exit delay, and an "exit alarm" message will be sent to the central station.

If Contact ID format has been programmed, the message will contain the zone number and error code 374 (Trouble–Exit Error) to define the alarm as an Exit Error (rather than E/E or Interior). If 4+2 format is used, the digit entered in this field will be sent followed by the second digit of the programmed alarm code for that zone. If 3+1 or 4+1 format is used, only the digit entered in this field will be sent. This message will go to the Primary Phone No. Under any of these conditions, no Restore message will be sent.

If "0" is entered in this field, no special message will be sent, only the regular alarm and alarm restore code for the zone.

***60 TROUBLE REPORT CODE** (See box above) [ ]

***61 BYPASS REPORT CODE** (See box above) [ ]

***62 AC LOSS REPORT CODE** [ ]

See box on previous page. Reports with Partition 1 Subscriber No. Timing of this report is random with up to a 4-hour delay. If AC restores before the report goes out, there is no AC restore report.

***63 LOW BAT REPORT CODE** [ ]

See box. Reports with Partition 1 Subscriber No.

***64 TEST REPORT CODE** [ ]

See box. Periodic Reports with Partition 1 Subscriber No.

***65 OPEN REPORT CODE** [ ]

See box. 2nd digit = User #, if expanded or 4+2 reporting is selected.

***66 ARM AWAY/STAY REPORT CODE** [ ]

This option allows for independent programming of AWAY and STAY reports for each partition. 2nd digit of report is User No. if expanded or 4+2 reporting is selected.

***67 RF XMTR. LOW BATTERY REPORT CODE** [ ]

(See box)

***68 CANCEL REPORT CODE** (See box on previous page.) [ ]

RESTORE REPORT CODES (*70–*76)

***70 ALARM RESTORE REPORT CODE, 1st DIGIT** [ ]

2nd digit is automatically sent as the 2nd digit of the zone alarm report code programmed in field *56, if expanded or 4+2 reporting is selected.

***71 TROUBLE RESTORE REPORT CODE** [ ]

See box. This is sent when a trouble in a zone is restored.

***72 BYPASS RESTORE REPORT CODE** [ ]

See box. This is sent when a zone that has been bypassed is un-bypassed.

***73 AC RESTORE REPORT CODE** [ ]

See box. Reports with Partition 1 Subscriber No.

***74 LOW BAT RESTORE REPORT CODE** [ ]

See box on previous page. Reports with Partition 1 Subscriber No.

***75 RF XMTR. LOW BATTERY RESTORE CODE** [ ]

See box. This is sent when a transmitter that previously sent in a low battery message has sent a message indicating it no longer has a low battery condition.

***76 TEST RESTORE REPORT CODE** [ ]

See box. Reports with Partition 1 Subscriber No. A restore code entered here will cause a restore message to be sent when Test mode is exited.

***80 OUTPUT DEVICES**

This is an interactive menu mode that is applicable only if field *25 is programmed for a 4229 or 4204, or if Powerline Carrier devices are to be used. See *Section 8. RELAY OUTPUTS & POWERLINE CARRIER DEVICES* for a detailed programming procedure. Also refer to the OUTPUT DEVICE table for *80 in the Programming Form.

***81 ZONE LISTS FOR OUTPUT DEVICES**

This is an interactive menu mode that is applicable only if field *25 is programmed for a 4229, 4204, or if Powerline Carrier devices are used.

Refer to *Section 8. RELAY OUTPUTS & POWERLINE CARRIER DEVICES* for a detailed programming procedure. Also refer to the ZONE LISTS FOR OUTPUT DEVICES table for *81 in the Programming Form.

***82 CUSTOM ALPHA EDITING**

See *Section 15. ALPHA DESCRIPTION PROGRAMMING* for procedure.

***83 ADD/DELETE 5800 RF INPUT IDs**

See Notes 4 and 5 in field *56. Also see *Section 16. USING *83 MODE TO DELETE, ADD, OR CHANGE SERIAL NUMBERS* for procedure.

***89 EVENT LOG 80% FULL REPORT CODE** [ ]

(Also see "TO PROGRAM SYSTEM STATUS, & RESTORE REPORT CODES box on a previous page).

If an Event Logging selection is made in field *90, a message can be sent to the central station receiver when the log is 80% full. If the log becomes full, a new message will overwrite the oldest message in the log. ***Note:*** Aside from the selection made by the installer in field *90, all control and readout from the log is accomplished via the Downloader (see field *90).

***90 EVENT LOGGING** [ ]

The VISTA-20 system has the ability to record various events in a history log (48-event capacity). The types of events to be logged can be selected as indicated below. At any time, the downloader operator can then upload the log and view or print out all or selected categories of the log. The log can also be cleared by the downloader operator.

The display/printout at the central station will show the date, time, event, and description of the occurrences. The time is calculated by an internal clock at the central station computer. Note that the time for any events that occur prior to a system power-down or an entry into the programming mode cannot be calculated by the central station computer. The time will then appear on the log as "unknown".

0 = None; 1 = Alarm/Alarm Restore; 2 = Trouble/Trouble Restore;
4 = Bypass/Bypass Restore; 8 = Open/Close. The default is "3".

Example: To select "Alarm/Alarm Restore", and "Open/Close", enter 9 (1 + 8); to select all, enter #15.

Note: System messages are logged when any non-zero selection is made.

***91 OPTION SELECTION** [ ]

Enter "4" if an Audio Alarm Verification (AAV) unit is connected in the system (1–3 not used); enter "0" if an AAV unit is not being used.

For UL installations, the AAV option must be disabled (enter "0").

***92 PHONE LINE MONITOR ENABLE** [ ]

0 = Not used (default)
1 = Local keypad display only when phone line is faulted.
2 = Local keypad display plus keypad trouble sound when line is faulted. Each partition turns off its own trouble sound. No automatic timeout.
3 = Same as "2" above plus Device No. 2 STARTS. If either partition is armed, external sounder activates. External sounder will be turned off by normal bell timeout, or by security code plus OFF *from either partition* (it does not have to be the one that was armed).

Device number 2 must either be programmed to be STOPPED in field *80 or STOPPED by entry of **security code + # + 8 + 2.** Partition in *80 should be set to "0 "for STOP.

***93 NUMBER OF REPORTS IN ARMED PERIOD** ☐

This option can be used to limit the number of messages (alarm & alarm restore reports) sent to the central station in an armed period. "0" limits reports to a total of 10; "1" allows an unlimited number of reports. Default is **0.**
For UL installations, enter "1").

DOWNLOAD INFORMATION (*94, *95)

***94 DOWNLOAD PHONE NUMBER**

Enter up to 12 digits; | | | | | | | | | | | | |

0–9, # +11 for "*", # + 12 for "#", # + 13 for a pause. Do not fill unused spaces. End field by entering *. To clear entries from field, press *94*.

***95 RING DETECTION COUNT FOR DOWNLOADING** ☐

Enter number of rings before control picks up phone line (or 0 or 15). Refer to the chart below and program this field accordingly.

Voice Module	Answering Machine	Downloading	Field *95
Yes	No	No	Set for value other than "0" (1–15). This will enable the control panel to answer the phone call. Otherwise, it will not be possible to access the Voice Module
Yes	Yes	No	Set for a value higher than the number of of rings for which the answering machine is set. Example: if machine is set for 4 rings, use a value of 5 or higher. This is recommended so that the Voice Module can still be accessed if the answering machine is turned off and does not answer the phone call.
Yes	No	Yes	Set for value other than "0" (1–15).
Yes	Yes	Yes	Enter "15" to bypass answering machine.
No	No	No	Enter "0".
No	Yes	No	Enter "0".
No	No	Yes	Enter 1–15.
No	Yes	Yes	Enter 15.

***96 INITIALIZE DOWNLOAD ID AND SUBSCRIBER ACCT. No. FOR DOWNLOADING**
(No data entry required, press *96)

***97 SET ALL PROGRAM FIELDS TO DEFAULT VALUES**
(No data entry required, pressing *97 automatically loads all defaults).

TO EXIT PROGRAMMING MODE (*98 or *99)

***98 EXITS PROGRAMMING MODE** and *prevents* re-entry by :
Installer Code + 8 + 0 + 0

***99 EXITS PROGRAMMING MODE** and *allows* re-entry by:
Installer Code + 8 + 0 + 0 or by: **Power-up** then "*" and "#".

Section 20. REMOTE PROGRAMMING AND CONTROL (DOWNLOADING)

General Information

The VISTA–20 can be remotely programmed from an IBM compatible Personal Computer (PC), a HAYES Modem, and Ademco's V-LINK® Software (as specified below).

UL	Downloading may only be performed if a technician is at the site.

Programming the control from a remote location is protected against compromise by someone attempting to defeat the system, using multi-levels of security protection:

1. **Security Code Handshake:** An 8-digit download ID code must be matched between the control and the downloader .
2. **Site Initiated Remote Programming:** The installer or subscriber initiates the callback from the subscriber premises (by entering Installer code + # + 1) while disarmed. All parameters can then be downloaded via the phone lines using a personal computer.
3. **Station Initiated Remote Programming:** The operator calls the site from your office to initiate the download call. The control hangs up and then calls back the PC via the preprogrammed telephone number. The unit can then be uploaded, downloaded, or controlled from your office .
4. **Data Encryption:** Data passed between the PC and the control is encrypted for security so that it is very difficult for a foreign device tapped into the phone line to take over communication and substitute system compromising information.

Equipment Required

At the premises:

- VISTA–20 and keypad.

At the installer's office/home:

- An IBM PC compatible computer.
- *Either* a HAYES brand SMARTMODEM 1200 [Level 1.2 or higher external or Level 1.1 or higher (with 4 position DIP switch) internal style],*or* a HAYES brand Optima 24 Plus FAX96 Modem.
- V-LINK® Downloading Software Diskette (at revision level supporting the VISTA-20).
- Appropriate interconnecting cables.

Initial Download

Enter Installer code + # + 5. This sets field *95 to 4 rings, and system to "no call-back" option. The download computer can then call the subscriber, make connection, and download all programming items.

Remote Programming Information

The downloading system can perform many functions when in communication with the control unit. Besides uploading and downloading, the status of the system can be observed and various commands can be initiated, as follows:

- Arm the System in the Away Mode; Disarm the System.
- Bypass a Zone.
- Force the System to Accept a New Program Download.
- Shut Down Communication (dialer) Functions (non-payment of monitoring fees in an owned system).
- Shut Down all Security System Functions (non-payment for a leased system).
- Inhibit Local Keypad Programming (prevents account takeover).
- Command the System to Upload a Copy of its Resident Program to the office.

- Read: Arming Status, AC Power Status, Lists of Faulted Zones, Bypassed Zones, Zones Currently in Alarm, Zones Currently in Trouble, and RF Sensors with Low Battery Conditions.

Notes: After the control and the PC have established valid communication, each keypad on the system will become inactive and will display "**CC**" or "**MODEM COMM.**". The control, however, will still be scanning its zones and looking for alarms. If an alarm does occur, after communication is broken off alarms are sounded and the proper dialer reports are sent to the central station. The keypads will become active after the download communication is terminated. The detailed operation of the download functions is covered in the installation instructions for the V-LINK® Downloading Software Diskette.

Remote Programming Advisory Notes

- Alarm and trouble reporting may be delayed during the time that the system and the Downloader are linked to each other following a valid exchange of codes, but the proper message will get through to the Central Station after the link is broken.
- Keypad entries are ignored during the time interval stated above.
- A copy of the program downloaded may be produced from the IBM PC compatible computer, using the product's internal report generator, when an optional printer is connected (consult your PC manual for proper printer and connections).
- Program Upload or Download Time—Approximately one minute fifteen seconds for a complete program.

Section 21. TESTING THE SYSTEM

Test Procedure

After installation is completed, *each* partition of the Security System should be carefully tested, as follows.

1. With the System in the disarmed state, check that all zones are intact. If a **NOT READY** message is displayed, press the **[*]** key to display the faulted zone(s). Restore faulted zone(s) if necessary, so that **READY** message is displayed. Fault and restore every sensor individually to assure that it is being monitored by the system.
2. Enter the **security code** and press the **TEST** key. The outside sounder will sound for 1 second. The keypad should sound 3 beeps each time a contact is faulted. A test report should be transmitted (if programmed) to the Central Station immediately. If the backup battery is discharged or missing, the sounder may not turn on and a LOW BATTERY report will be transmitted with a TEST report. The keypad will beep once per minute as a reminder that the system is in the Test Mode. To turn off the test mode enter **security code** and press the **OFF** key.

   Note: Triggering a zone set to Arm Away, Arm Stay, or Disarm will take the system out of TEST and cause that action.

Alarm messages will be sent to the central station during the following tests 3 and 4. Notify them *in advance* that tests will be in progress.

3. Arm the system and fault one or more zones. After 15 seconds (if optional dialer delay is selected), silence alarm sounder(s) by entering the **code** and pressing **OFF.** Check Entry/Exit delay zones.
4. Check the keypad-initiated alarms that are in the system by pressing the Panic key (key pairs on some keypads) . If the system has been programmed for audible emergency, the keypad will emit a steady alarm sound, and **ALARM and zone number** will be displayed. Silence the alarm by entering the **security code** and pressing **OFF.**

   If the system has been programmed for silent emergency, there will be no audible alarms or displays, but a report will be sent to the central station.
5. If output Relay Units/Powerline Carrier Devices have been installed, test their programmed action.
6. Notify the central station when all tests are finished, and verify results with them.
7. To test the wireless part of the system and the RF Receiver, perform the two additional tests that follow:

   a. **TRANSMITTER SNIFFER MODE**

   Make sure both partitions are disarmed before trying to enter this mode.

   Press **Installer code + # + 3.** This initiates a procedure that will check that all transmitters have been properly programmed.

   Note: If the communicator is in the process of sending a report to the central station, the system will not go into the Sniffer mode. If so, wait a few minutes, and try again.

   The keypads in both partitions will display all zone numbers of wireless units (in both partitions) programmed into the system. As the system receives a signal from each of the transmitters, the zone number of that transmitter will disappear from the display. The transmitter codes may be checked upon installation, or in an installed system.

   All the wireless zone numbers should disappear after about 1-1/2 hours.

   Notes:

   - All BR type units must physically be activated to clear the display.

- When **one** button of a transmitter (RF, UR, or BR) is activated, all zones assigned to other buttons on that transmitter are cleared. This also applies to 5816 and 5817 transmitters which have multiple loops (zones).
- Any transmitter that is not "learned" will not turn off its zone number.

Exit this mode by keying **Installer code + OFF.**

b. **GO/NO GO TEST MODE:** By pressing **Installer code + # + 4**, a mode similar to the user test mode (code + TEST) is entered, but the wireless receiver gain is reduced. Checking in this mode assists in determining good mounting locations for the transmitters when the system is being installed and verifies that the RF transmission has sufficient signal amplitude margin for the installed system.

Exit the mode by entering **Installer code + OFF.**

NOTE: THE TEST MODE WILL BE AUTOMATICALLY TERMINATED AFTER 4 HOURS IF THE INSTALLER OR USER DOES NOT MANUALLY TERMINATE IT.

This insures that Fire and Panic zones will not remain disabled.

TO THE INSTALLER

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to insure the system's proper operation at all times.

Section 22. SYSTEM OPERATION

Security Codes

Installer Code

The installer programs the 4-digit Installer Code initially as part of the programming procedure. The factory default Installer code is "**4-1-1-2**", but may be changed in field *20.

The Installer code is the only code that can enter programming mode and also, in normal operation mode, is used to enter the Master code for each partition, which allows access to the normal functions of the system.

See *Section 4. MECHANICS OF PROGRAMMING* for information on exiting the programming mode via fields *98 or *99.

Master Code

In normal operation mode, the Installer code is used to enter the 4-digit Master security code for each partition, using *the keypad connected to Partition 1*:

To enter the Master code for Partition 1, enter:

Installer Code + [8] + [01] + desired 4-digit Master code for Partition 1

To enter the Master code for Partition 2, enter:

Installer Code + [8] + [02] + desired 4-digit Master code for Partition 2

Secondary User Codes

In normal operation mode, each partition's Master security code can be used to assign up to 14 secondary 4-digit security codes for that partition. It can also be used to remove secondary codes from the system (individually).

To assign (or change) a Secondary security code, enter *(via partition's keypad)*:

Partition's Master Code + [CODE key] + User # (03–16) + desired Secondary Code

The system will emit a single beep when each secondary code has been successfully entered.

To delete a Secondary security code, enter *(via partition's keypad)*:

Partition's Master Code + [CODE key] + User # (03–16)

Notes:

- All Master and Secondary security codes permit access to the system for arming, disarming, etc.
- The installer code can disarm the system only if it was used to arm it.
- User code No. 15 is a "babysitter" code, i.e., it can disarm the system only if it was used to arm it.
- User code No. 16 is the Duress code. When this is used to perform any system operation, a special code is sent to the monitoring station. Instruct users to be careful not to use this code for normal usage.
- If a secondary code is inadvertently repeated for different users, the lower user number will take priority.
- Opening and closing reports are sent for the Installer code as No. 01, with the appropriate subscriber number. Each Master code and set of secondary user codes are sent as Nos. 02, and 03–16 respectively in Contact ID format (with the appropriate subscriber number); in 4+2, it is 1–F, "F" for anything greater than 14; keyswitch will report as user "0".

Keypad Functions

General Information

Note that if you enabled QUICK ARM for the partition (field *21), the [#] key can be pressed instead of entering the partition's security code, for any of the arming procedures (Away, Stay, Instant, Maximum, etc.). The security code is *always* required, however, when disarming the system.

The keypad allows the user to arm and disarm the system, and perform other system functions, such as bypassing zones, and display zone descriptors. Zone and system conditions (alarm, trouble, bypass) are displayed in the Display Window.

When an alarm occurs, keypad sounding and external sounding will occur, and the zone(s) in alarm will be displayed on the keypad. Pressing any key will silence the keypad sounder for 10 seconds. Disarming the system will silence both keypad and external sounders. When the system is disarmed, any zones that were in an alarm condition during the armed period will be displayed (memory of alarm). To clear this display, simply repeat the disarm sequence (enter the security code and press the OFF key) *again.*

The keypads also feature chime annunciation, and 3 panic key pairs, or individual panic keys (depending on keypad type – see *Panic Keys* below), for silent, audible, fire or personal emergency alarms. These keys can notify the central station of an alarm condition, if that service is connected.

Arming Functions

The following is a brief list of system commands. For detailed information concerning system functions, refer to the User's Manual.

Disarmed, Not Ready ..... Before arming, the system must be in the READY condition (all zones must be intact). If the "NOT READY" message appears, press the READY [*] key to display faulted zones.

Arming Away ..... Enter code + AWAY [2].

Arming Stay ..... Enter code + STAY [3].

Arming Instant ..... Enter code + INSTANT [7].

Arming Maximum ..... Enter code + MAXIMUM [4].

Disarming ..... Enter code + OFF [1].

Bypassing Zones ..... Enter code + BYPASS [6] + zone number(s).

Forced (Quick) Bypass ..... *(If enabled)* To automatically bypass all faulted zones, use the "Quick Bypass" method: Enter code + BYPASS, then wait for all open zones to be displayed. Arm when display indicates "bypass" and "ready to arm".

Chime Mode ..... Enter code + CHIME [9].
To turn chime off, enter code + CHIME again.

SUMMARY OF ARMING MODES

Arming Mode	Features for Each Arming Mode			
	Exit Delay	Entry Delay	Perimeter Armed	Interior Armed
AWAY	Yes	Yes	Yes	Yes
STAY	Yes	Yes	Yes	No
INSTANT	Yes	No	Yes	No
MAXIMUM	Yes	No	Yes	Yes

Panic Keys

There are three panic key pairs or (on some keypads) lettered keys that, if programmed, can be used to manually initiate alarms and send a report to the central station.

Each can be individually programmed for 24-hour Silent, Audible, Personal or Fire Emergency responses. The panic function is activated when both keys of the appropriate key pair are pressed at the same time, or the appropriate lettered key is pressed for at least 2 seconds.

The panic functions are identified by the system as follows:

Keys	Displayed as Zone
[1] & [*], or [A]	95
[*] & [#], or [B]	99
[3] & [#], or [C]	96

Notes:

- Keys [A], [B], [C] are not on all keypads.
- Key [D], if present, is not active here.

Important: For the Silent Panic functions to be of practical value, the system must be connected to a central station.

Relay/Powerline Carrier Devices (if used)

If relay outputs (via a 4204, or 4229), or Powerline Carrier devices are used, two keypad entries available to the user are included. They can manually activate or deactivate the device(s) for starting or stopping some action, such as turning lights on or off, etc.

These keypad entries are:

Security Code + [#] + [7] + Device # activates (starts) that device.

Security Code + [#] + [8] + Device # de-activates (stops) that device.

4285 Voice Module (if used)

Refer to the separate instructions supplied with the Voice Module for information concerning its operating procedures.

Note: The Voice Module **cannot** be used to add user codes in this system. User codes must be added by using a wired keypad.

Exit Error Alarm Displays (if programmed)

- **A display of "CANCELED ALARM" or "CA" and a zone indication** will appear if an exit or interior zone contained a fault during closing at the time the exit delay ended (e.g., exit door left open), *but the system was disarmed during the entry delay time.* The alarm sounder and keypad sound continuously, but stop when the system is disarmed. No message will be transmitted to the central station.
- **A display of "EXIT ALARM" or "EA" and a zone indication** will appear if an exit or interior zone contained a fault during closing at the time the exit delay ended, *but the system was NOT disarmed during the entry delay time.* The alarm sounder and keypad sound continuously until the system is disarmed (or timeout occurs). An "exit alarm" message is sent to the central station.
- **The "EXIT ALARM" display, etc.** will also result if an alarm from an exit or interior zone occurs within two minutes after the end of an exit delay.

In any of the above cases, use a second OFF sequence (code plus OFF key) to clear the display.

Trouble Conditions

(See Troubleshooting Guide also)

General Information

The word "CHECK" on the Keypad's display, accompanied by a rapid "beeping" at the Keypad, indicates that there is a trouble condition in the system. The audible warning sound can be silenced by pressing any key. Instruct users to call for service immediately upon seeing any of the following messages.

"Check" and "Battery" Displays

- **A display of "CHECK" and one or more zone numbers** indicates that a problem exists with the displayed zone(s) and requires attention.

  Note: The control will sense a high resistance in the loops on hard-wired zones 2–8 and display "CHECK" and the affected zone number when the system is in the disarmed mode. It will not be possible to arm the system as long as this condition exists (unless this zone is bypassed). If the system is in the armed mode when the high resistance condition occurs, this display will not appear, but will do so as soon as the system is disarmed. Check the sensor or the loop wiring for the displayed zone.

  When the problem has been corrected, the display can be cleared by entering the OFF sequence (code plus OFF key) twice.
- A display of **"CHECK"** and **09** indicates that communication between control and a zone expander or wireless receiver is interrupted. Check the wiring and DIP switch settings on the units.
- **If there are wireless sensors in the system,** the CHECK condition may also be caused by some change in the environment that prevents the receiver from receiving signals from a particular sensor.
- **A display of "BAT"** (Fixed-word keypads) **or "SYSTEM LO BAT"** (Alpha keypads) **with no zone number** indicates that the system's main standby battery is weak.
- **A display of "BAT"** (Fixed-word keypads) **or LO BAT** (Alpha keypads) **with a zone number and a once per minute "beeping" at the keypad** indicates that a low battery condition exists in the wireless sensor displayed (zone "00" indicates a wireless keypad). If the battery is not replaced within 30 days, a CHECK display may occur.

  Note: Some wireless sensors contain a non-replaceable long-life battery which requires replacement of the entire unit at the end of battery life (e.g., Nos. 5802, 5802CP, 5803).

Telephone Line Failure

A display of **"94"** (Fixed-word keypads), or **"Telco Fault"** (Alpha keypads), indicates that a monitored telephone line (if programmed in field *92) has been cut (or disconnected). Depending on how the system was programmed, the keypad may also produce a trouble sound, and the external sounder may be activated (silence by entering installer code plus OFF).

Power Failure

- **If there is no keypad display at all, and the POWER indicator (if present) is not lit,** operating power for the system has stopped and the system is inoperative.
- **If the message "AC LOSS"** (Alpha keypads) **or "NO AC"** (Fixed-word keypads) **is displayed, and the POWER indicator (if present) is off,** the keypad is operating on battery power only.
- **If the battery standby capacity is used up during a prolonged AC power outage,** the control's auxiliary power will shut down to minimize deep discharge of the battery.

Other Displays
(Fixed Word displays are in parentheses)

Busy-Standby (dI). If this remains displayed for more than 1 minute, the system is disabled.

Modem Comm (CC) The system is in communication with the central station for change of function or status verification.

Comm. Failure (FC) A communication failure has occurred.

Open Circuit (OC) The keypad is not receiving signals from the control and sees an open circuit.

Long Rng Trbl (bF) Back-up LRR communication failure.

Section 23. TROUBLESHOOTING GUIDE

SYSTEM (including Wireless)

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. Transmitter signal not received at 5881/5882.	1a. Transmitter or 5881/5882 not properly powered.	1a Check or change transmitter's battery. Check VISTA–20's AC power.
	1b. If Transmitter is 5827/5827BD, house code not set in field *24, or transmitter not set to same house code set in that field.	1b. Check code switches inside transmitter. Must match with RF House Code programmed in VISTA–20.
	1c. Transmitter located too for from RF receiver.	1c. Move transmitter or RF receiver.
	1d. Metal shielding between transmitter and RF receiver.	1d. Check for large metal obstructions, then relocate transmitter if necessary.
	1e. Transmitter malfunctioning.	1e. Verify by activating 5881/5882 with another, similar transmitter. If O.K. now, return defective transmitter.
	1f. 5881/5882 malfunctioning.	1f. Verify by making sure other transmitters cannot activate 5881/5882. If defective, replace and return original 5881./5882.
	1g. Transmitter No. (zone) not programmed.	1g. Verify programming.
	1h. 5881/5882 address incorrect.	1h. Set DIP switch on 5881/5882 for address "0".
	1i. Field *22 not set properly.	1i. Set field *22 for "1".
2. Transmitter zone number appears during Transmitter Sniffer mode, but does not clear.	2a. Transmitter zone type (ZT) is set to 00 (Not Used).	2a. Set ZT to a valid active zone type in field *56.
	2b. Transmitter battery not installed.	2b. Install proper battery.
	2c. 5800 System transmitter not "learned" in system.	2c. "Learn" unit in field *56 or *83.
3. Low Battery message on keypad.	3a. "Bat" or "System Lo Bat" (no zone Nos.)	3a. System battery is low or missing.
	3b. "Bat" or "Lo Bat" + "00".	3b. Remote RF keypad battery is low.
	3c. "Bat" or "Lo Bat" + "nn".	3c. Transmitter for zone "nn" has a low battery.
4. Periodic beep(s) from keypad.	4a. System is in TEST mode.	4a. Enter "Code" + OFF to exit TEST mode.
	4b. A transmitter low battery has occurred and is displayed.	4b. Enter "Code" + OFF and replace the battery.
	4c. A supervision CHECK has occurred.	4c. Check the transmitter indicated. Restore communication to the receiver to cancel the condition.
5. With 5800 System, no response to a transmitter in normal operation, although zone number clears during Transmitter Sniffer mode.	Put control in TEST mode. If zone does not respond, try operating the tamper switch or another input to the transmitter.	
	5a. If another input causes the zone to be displayed, the wrong input was "learned" when programming.	5a. Delete input's serial number (not the zone), and learn the proper input (see field *56).
	5b. If no response at all from this transmitter, this physical transmitter has not been learned by the system. Transmitter Sniffer display is being cleared by another unit programmed for this zone.	5b. Determine which transmitter is programmed for this zone and reprogram as necessary.
6. Nuisance or phantom alarm.	6a. Sensors not properly installed, wired, or monitored.	6a. Check installation to see if in accordance with established procedure.
	6b. Universal transmitter (5817) programmed wrong.	6b. Check programming switches on transmitter.
7. Intrusion alarm for no apparent reason.	7a. Protected door or window opened while system armed.	7a. Check with all occupants of protected home.
	7b. Improper user operation of exit/entry delays.	7b. Check setting of entry delay . Exit delay is 40 seconds longer than the entry delay time. Remind user of same.
	7c. Magnets located too far from switches, and/or doors and windows not properly aligned.	7c. Check all openings for proper switch and magnet orientation.
8. "CHECK" and zone number 2–8 is displayed.	8. Control has sensed a high resistance condition on a loop in one of the hard-wired zones (2–8).	8. Check the sensor or the loop wiring in the affected zone. The system will not arm until this condition is corrected (or the affected zone is bypassed).

TROUBLESHOOTING GUIDE (continued)

CONTROL

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. **"AC POWER" light off.**	1a. Interrupted AC power supply.	1a. Check transformer connection and Powerline circuit breaker.
2. **Digital communicator message not being received.**	2a. VISTA–20 in TEST mode.	2a. Remove from TEST mode.
	2b. Telephone connection not secure.	2b. Check all connections.
	2c. Digital communicator malfunctioning.	2c. Check with a different VISTA–20.
	2d. Telephone number in program needs prefix or access code.	2d. Program prefix or access code into the VISTA–20.
	2e. Telephone call to central monitoring station requires operator assistance.	2e. VISTA–20 system cannot work in this situation.
3. **Does not arm properly.**	3a. Ready light not on.	3a. Check for faulted zones and make intact, or use Bypass arming, if desired.
4. **VISTA–20 doesn't respond to keystrokes on keypad.**	4a. "CC" or "MODEM COMM" displayed.	4a. System is in communication with downloader at central station. Wait until download session is finished.
	4b. "d1" or "System Busy" displayed.	4b. System has just been powered and is in its one minute initialization. To bypass this time, press '#' + '0'.
	4c. "E4" or "E8", or "Set-up Error" displayed.	4c. More zones have been programmed than the zone expansion modules can handle. Delete some zones or use a higher capability RF receiver.
	4d. Keypad address setting incorrect.	4d. Keypads must be set for address 31 (non-addressable mode).

SMOKE DETECTOR

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. **Detector alarms, no apparent reason.**	1a. Dust, dirt in sensing chamber.	1a. Clean unit's sensing chamber with vacuum cleaner per unit's instructions.
	1b. Improper location.	1b. See unit's instructions for locations to avoid. Relocate as necessary.
	1c. Unit malfunctioning.	1c. Replace detector.
2. **Detector's siren sounds.**	2a. Unit not receiving required power.	2a. Check for proper installation of battery. Try new battery.
	2b. Unit malfunctioning.	2b. Replace detector.

CONTACTING TECHNICAL SUPPORT

PLEASE,

Before you call Technical Support, be sure you:

- **READ THE INSTRUCTIONS!**
- **Check all wiring connections.**
- **Determine that the power supply and/or backup battery are supplying proper voltages.**
- **Verify your programming information where applicable.**
- **Note the proper model number of this product, and the version level (if known) along with any documentation that came with the product.**
- **Note your ADEMCO customer number and/or company name.**

Having this information handy will make it easier for us to serve you quickly and effectively.

You may contact Technical Support via Toll-Free FAX. Please include your return FAX number. You will receive a reply within 24 hours. You may also contact Technical Support via modem to ATLIS–BBS, Technical Support's Electronic Bulletin Board System. Replies are posted within 24 hours.

East Coast Technical Support: 1–800–645–7492 (8 a.m.–6 p.m. E.S.T.)
West Coast Technical Support: 1–800–458–9469 (8 a.m.–5 p.m. P.S.T.)

Technical Support FAX Number: 1–800–447–5086

ATLIS–BBS Electronic Bulletin Board System: 1–516–496–3980
(1200 – 9600 Baud, 8 Data Bits, 1 Start/Stop Bit, No Parity)

ATLIS FAX – Automated Fax Retrieval System: 1–800–573–0153
1–516–921–6704/Ext. 1667

REGULATORY AGENCY STATEMENTS

UL NOTICE: This is a "Grade A" residential system.

FEDERAL COMMUNICATIONS COMMISSION (FCC) Part 15 STATEMENT

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user or installer may find the following booklet prepared by the Federal Communications Commission helpful: "Interference Handbook"

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

FEDERAL COMMUNICATIONS COMMISSION (FCC) Part 68 STATEMENT

This equipment complies with Part 68 of the FCC rules. On the front cover of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following jacks: An RJ31X is used to connect this equipment to the telephone network.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the manufacturer for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

There are no user serviceable components in this product, and all necessary repairs must be made by the manufacturer. Other repair methods may invalidate the FCC registration on this product.

This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

This equipment is hearing-aid compatible.

When programming or making test calls to an emergency number, briefly explain to the dispatcher the reason for the call. Perform such activities in the off-peak hours; such as early morning or late evening.

Section 24. SPECIFICATIONS & ACCESSORIES

Specifications

VISTA-20 SECURITY CONTROL

1. Physical: 12-1/2" W x 14-1/2" H x 3" D (318mm x 368mm x 76mm)

2. Electrical:

VOLTAGE INPUT: 16.5VAC from plug-in 25VA transformer, Ademco No. 1321/TF2 (in U.S.A.)

RECHARGEABLE BACK-UP BATTERY: 12VDC, 4AH (Gel type). Charging Voltage: 13.8VDC.

ALARM SOUNDER: 12V, 2.0 Amp output can drive 12V BELLS or can drive one or two 702 (**series** connected) self-contained 20-watt sirens. Do **not** connect two 702s in parallel.

AUXILIARY POWER OUTPUT: 12VDC, 600mA max. Interrupts for 4-wire smoke detector reset.

Note: *For UL installations, Alarm Sounder plus Auxiliary Power currents should not exceed 700mA total.*

STANDBY TIME: (see Table in POWERING THE SYSTEM section)

FUSE: Battery (3A) No. 90–12

3. Communication:

FORMATS SUPPORTED:

Ademco Express,
10 characters/sec, DTMF (TouchTone) Data Tones, 1400/2300Hz ACK, 1400Hz KISSOFF.

Ademco Contact ID Reporting,
10 characters/sec., DTMF (TouchTone) Data Tones, 1400/2300Hz ACK, 1400Hz KISSOFF.

Ademco Low Speed, 10 pulses/sec, 1900Hz Data Tone, 1400Hz ACK/KISSOFF.

Radionics/SESCOA, 20 pulses/sec, 1800Hz Data Tone, 2300Hz ACK/KISSOFF. Can report 0–9, B–F

Line Seize: Double Pole

Ringer Equivalence: 0.7B

FCC Registration No.: AC 398U–68192–AL–E

4. Maximum Zone Resistance: Zones 1–8 = 300 ohms excluding EOLR

4127 REMOTE KEYPAD

1. Physical: 5-5/8" W x 4-11/16" H x 7/8" D (143mm x 119mm x 22mm)

2. Electrical: Voltage Input: 12VDC, Current Drain: 20mA

3. Interface Wiring: To control panel's keypad connection points.

RED:	12VDC input (+) aux pwr
GREEN:	Data Out to Control
YELLOW:	Data In from Control
BLACK:	Ground

4137AD & 5137AD REMOTE KEYPADS

1. Physical: 8-2/5" W x 4-3/4" H x 1-1/10" D (213mm x 121mm x 28mm)

2. Electrical: Voltage Input: 12VDC,
Current Drain: 60mA (4137AD)
90mA(5137AD)

3. Interface Wiring:

RED:	12VDC input (+) aux pwr
BLUE:	18VDC input from optional No 1350 or 1360 Power Pack (not usable for UL installations)
GREEN:	Data Out to Control
YELLOW:	Data In from Control
BLACK:	Ground (–) connection from optional No. 1350/1360 Power Pack.

6127 REMOTE KEYPAD

1. **Physical:** 5-3/4" W x 4-3/4" H x 1" D (146mm x 121mm x 26mm)
2. **Electrical:** Voltage Input: 12VDC; Current Drain: 20mA
3. **Interface Wiring:** Same as 4127.

6128 REMOTE KEYPAD

1. **Physical:** 5-3/4" W x 4-3/4" H x 1" D (146mm x 121mm x 26mm)
2. **Electrical:** Voltage Input: 12VDC; Current Drain: 30mA
3. **Interface Wiring:** Same as 4127.

6137 REMOTE KEYPAD

1. **Physical:** 6-1/4" W x 4-3/4" H x 1" D (159mm x 121mm x 26mm)
2. **Electrical:** Voltage Input: 12VDC; Current Drain: 85mA
3. **Interface Wiring:** Same as 4127.

6138 & 6139 REMOTE KEYPADS

1. **Physical:** 6-1/4" W x 4-3/4" H x 1" D (159mm x 121mm x 26mm)
2. **Electrical:** Voltage Input: 12VDC; Current Drain: 100mA
3. **Interface Wiring:** Same as 4127.

5881/5882 SERIES RF RECEIVERS (5800 System)

1. **Physical:** 7-3/8" (188mm) W x 4-3/8" (112mm) H x 1-7/16" (37mm) D
   Note: 10-7/8" (277mm) H with antenna
2. **Electrical:** Voltage Input: 12VDC; Current Drain: 35mA
3. **Interface Wiring:** Same as 4127.
4. **Range:** 200ft (60m) nominal indoors from wireless transmitters (the actual range to be determined with system in TEST mode).
5. **Zones:** (With the ***Ademco VISTA-20***)
   5881L/5882L: accepts up to 8 transmitters
   5881M/5882M: accepts up to 16 transmitters
   5881H/5882H: accepts up to 24 transmitters

5800TM TRANSMITTER MODULE used with 5827BD Wireless 2-Way Keypad

1. **Physical:** 2-1/4" W x 4-1/8" H x 7/8" D (57mm x 105mm x 22mm)
2. **Electrical:** Voltage Input: 12VDC Current Drain: 20mA
3. **Interface Wiring:** Same as 4127.

4219 WIRED EXPANSION MODULE

1. **Physical:** 6-1/2" W x 4-1/4" H x 1-1/4" D (169mm x 108mm x 32mm)
2. **Electrical:** Voltage Input: 12VDC; Current Drain: 35mA
3. **Interface Wiring:** Same as 4127.
4. **8 EOLR Loops (A–H):** Loop A can be set for fast (10–15msec) response to an open.

4204 RELAY MODULE

1. **Physical:** 6-1/2" W x 4-1/4" H x 1-1/4" D (169mm x 108mm x 32mm)
2. **Electrical:** Voltage Input: 12VDC; Current Drain: 15mA(Relays off) 180mA (Relays on)
3. **Interface Wiring:** Same as 4127
4. **Four Output Relays:** SPDT Contacts, Rating: 2A max at 28VDC/AC

4229 WIRED EXPANSION/ RELAY MODULE

1. **Physical:** 6-1/2" W x 4-1/4" H x 1-1/4" D (169mm x 108mm x 32mm)
2. **Electrical:** Voltage Input: 12VDC; Current Drain: 35mA (Relays off) 100mA (Relays on)
3. **Interface Wiring:** Same as 4127.
4. **8 EOLR Loops (A–H):** Loop A can be set for fast (10–15msec) response to an open.
5. **Two Output Relays:** SPDT Contacts, Rating: 2A max at 28VDC/AC

4285 VOICE MODULE

1. **Physical:** 6-1/2" W x 4-1/4" H x 1-1/4" D (169mm x 108mm x 32mm)
2. **Electrical:** Voltage Input: 12VDC Current Drain:160mA
3. **Device Address:** Permanently set to address 4.
4. **Interface Wiring:** See 4285 VOICE MODULE section.
5. **Telephone Line Connections:** See 4285 VOICE MODULE section.

Accessories (Compatible Devices)

No. 1321/TF2	16.5VAC, 25VA Plug-In Transformer
No. 4300	Powerline Carrier device Interface AC Transformer

Sounders

Ademco AB-12M 10" Motorized Bell & Box	Motor bell & box. UL Grade A. 100 mA current draw.
Ademco 1011BE12M 10" Motorized Bell & Box	Motor bell & box. UL Listed. 100 mA current draw.
Ademco 702 Outdoor Siren	Self-contained 6–12 volt siren (driver built-in) and weatherproof for outdoor use. Can be wired for either a steady or warble sound.
Ademco 719 2-Channel Siren	Two-channel, self-contained 6–12-volt siren (driver built in). 109dB @ 10 feet. 550mA current draw.
Ademco 747 Indoor Siren	Self-contained 12 volt siren (driver built-in) for indoor wall mount. 747F available for flush mounting.
Ademco 747UL Indoor Siren	Self-contained siren (driver built-in) for indoor wall mount. UL Listed.
Ademco 744 Siren Driver	6 jumper-selected sound outputs. Rated at 119dB with use of an 8-ohm 30 watt speaker.
Ademco 745X3 Voice Siren Driver	Voice siren driver with English, Spanish and French voice messages. Separate messages for Fire and Burglary. Use with 8-ohm speaker. UL Listed.
Ademco 705–820, 5-inch Round Speaker	15-watt, 8-ohm speaker.
Ademco 713 Speaker	40-watt, 8-ohm, indoor/outdoor speaker.
System Sensor PA400B (beige)/PA400R (red) Indoor Piezo Sounder	Indoor piezo sounder (red or beige), rated at 90 dB @ 10 feet.

Compatible 2-Wire Smoke Detectors

System Sensor

2300T	Photoelectric w/heat sensor, direct wire
2400	Photoelectric, direct wire
2400TH	Photoelectric w/heat sensor, direct wire
2451	Photoelectric w/B401B base
2451TH	Photoelectric w/heat sensor & B401Bbase
1400	Ionization, direct wire
1451	Ionization w/B401B base
2451	Photoelectric duct detector w/DH400 base
1451DH	Ionization duct detect. w/DH400 base

Compatible 4-Wire Smoke/Combustion Detectors

System Sensor

1412	4-wire ionization products of combustion detector
2412	4-wire photoelectric smoke detector
2412TH	4-wire photoelectric smoke detector w/135º F (57º C) heat detector
A77–716B	EOL relay module (supervisory module for wired 4-wire fire zone).
2112/24T	Low-profile 4-wire photoelectric smoke detector w/135º F (57º C) heat detector

APPENDIX A.
5800 RF System Wireless Transmitters

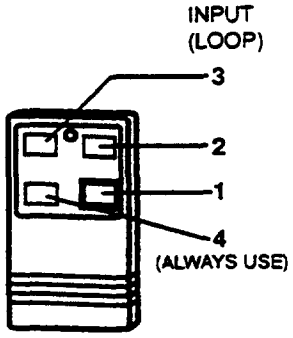
Transmitter Input Loop Identification

- All of the transmitters illustrated below have one or more unique factory assigned input (loop) ID codes. *Each of the inputs requires its own programming zone* (e.g., a 5803's three inputs require three programming zones).
- Transmitter inputs learned as:

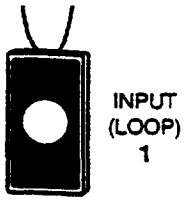
  "RF" (Supervised RF) Type send periodic check-in signals, as well as fault, restore and low battery signals. The transmitter must remain within the receiver's range.

  "UR" (Unsupervised RF) Type send all the signals that the "RF" Type does, but the control does not supervise the check-in signals. The transmitter may, therefore, be carried off-premises.

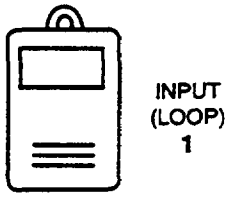
  "BR" (Unsupervised Button RF) Type only send fault signals. They do not send low battery, restore or check-in signals. The transmitter may be carried off-premises.



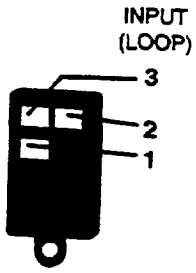
5801
LEARN AS "UR" OR "RF"



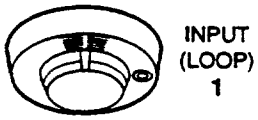
5802/5802CP
LEARN AS "BR"



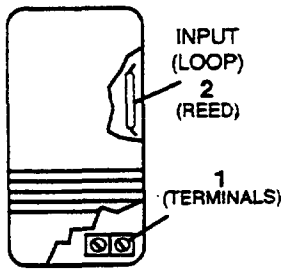
5802MN
LEARN AS "UR" OR "RF"



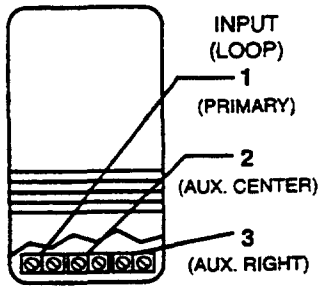
5803
LEARN AS "BR"



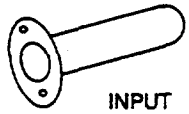
5806/5807
(5806 SHOWN)
LEARN AS "RF"



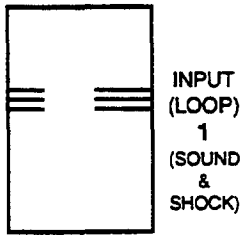
5816
LEARN AS "RF"



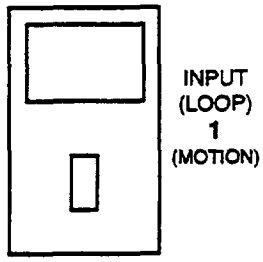
5817
LEARN AS "RF"



5818
LEARN AS "RF"



5849
LEARN AS "RF"



5890
LEARN AS "RF"

5827
SET HOUSE CODE

5827BD
SET HOUSE CODE

– NOTES –

WARNING
THE LIMITATIONS OF THIS ALARM SYSTEM

While this System is an advanced design security system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system, whether commercial or residential, is subject to compromise or failure to warn for a variety of reasons. For example:

- Intrusion detectors (e.g., passive infrared detectors), smoke detectors, and many other sensing devices will not work without power. Battery-operated devices will not work without batteries, with dead batteries, or if the batteries are not put in properly. Devices powered solely by AC will not work if their AC power supply is cut off for any reason, however briefly.
- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.
- A user may not be able to reach a panic or emergency button quickly enough.
- While smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires, according to data published by the Federal Emergency Management Agency. Some of the reasons smoke detectors used in conjunction with this System may not work are as follows. Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors, such as in chimneys, in walls, or roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level of a residence or building. A second floor detector, for example, may not sense a first floor or basement fire. Finally, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending on the nature of the fire and/or location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in their installation manual. Passive Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90° to 105°F (32° to 40°C), the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. If warning devices are located on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliance, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people.
- Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.
- Even if the system responds to the emergency as intended, however, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 20 years, the electronic components could fail at any time.

The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. This alarm system should be tested weekly to make sure all sensors and transmitters are working properly. The security keypad (and remote keypad) should be tested as well.

Wireless transmitters (used in some systems) are designed to provide long battery life under normal operating conditions. Longevity of batteries may be as much as 4 to 7 years, depending on the environment, usage, and the specific wireless device being used. External factors such as humidity, high or low temperatures, as well as large swings in temperature, may all reduce the actual battery life in a given installation. This wireless system, however, can identify a true low battery situation, thus allowing time to arrange a change of battery to maintain protection for that given point within the system.

Installing an alarm system may make the owner eligible for a lower insurance rate, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

INDEX

1-Minute Delay 65
1011BE12M 55, 110
1321/TF2 AC Transformer 10, 11, 15, 43, 65
15-Second Dialer Delay (Burglary) 79, 89
2-Digit Phone Access Code 53, 54
24-Hour Audible Alarm 84
24-Hour Silent Alarm 84
2412 ..... 24, 110
2412TH 24, 110
3+1 and 4+1 Expanded Formats 76
3+1 and 4+1 Standard Formats 76, 80, 92
3-digit number 67, 68
4+2 Format 76
4-Wire Smoke Detectors 22, 23
4127 ..... 9, 17, 108
4137AD 9, 17, 18, 108
4142TR Cable 16, 44, 59
4146 Keyswitch 10, 59
4204 ..... 10, 21, 42, 47, 63, 93, 102, 109
4219 ..... 9, 28, 31, 36, 42, 72, 90, 109
4229 ..... 9, 10, 21, 28, 31, 36, 42, 47, 63, 72, 90, 93, 102, 109
4285 Voice Module 10, 15, 50, 51, 52, 53, 54, 63, 67, 70, 102,109
4300 Transformer 10, 11, 15, 16, 42, 43, 44, 110
487–12 18
488–12 18
5137AD 9, 11, 17, 18, 20, 25, 29, 47, 53, 56, 58, 108
5137TRK 18
5800 Series Transmitters 34, 35, 41
  Input Loop Identification 111
5800TM 34, 109
5801 ..... 34, 35, 40, 72, 90, 91
5802 ..... 34, 35, 37, 40, 90, 91, 103
5802CP 34, 35, 37, 40, 90, 91, 103
5802MN 34, 40
5803 ..... 34, 35, 37, 40, 74, 90, 91, 103
5806 40
5807 40
5816 ..... 34, 40, 72, 73
5817 ..... 34, 40, 104
5818 40
5827 ..... 32, 34, 41
5827/5827BD 104
5827BD 32, 34, 109
5849 40
5881/5882 ..... 9, 33, 104
5881H/5882H 9, 32, 109
5881L/5882L 9, 32, 109
5881M/5882M 9, 32, 109
5890 40
6127 ..... 9, 17, 109
6128 ..... 9, 17, 18, 109
6137 ..... 9, 17, 18, 109
6138 ..... 9, 17, 18, 109
6139 ..... 9, 11, 17, 18, 20, 25, 29, 47, 53, 56, 58, 109
6139TRK 18
7720 PLUS 10, 58
9-Pin Connector 59

– A –

A77–716B 23, 24, 110
AC Loss Report Code 80, 92
AC Power Supply 11
AC Restore Report Code 81, 93
AC Transformer 15
Add/Delete 5800 RF Input IDs 94
Addressable Type keypads 17, 18, 50
Ademco 744 55
Ademco 745X3 55
Ademco 747 55
Ademco AB-12M 55, 110
Ademco 1011BE12M 55, 110
Ademco Contact ID 11, 76
Ademco Express 11, 108
Ademco Low Speed 11, 108
Alarm Bell Timeout 56, 86
Alarm Output 11, 56, 66
Alarm Restore Report Code, 1st Digit 81, 93
Alarm sounders 56
Alpha descriptors 30, 38, 67, 69
Alpha Keypads 9, 21
Alpha Vocabulary 67
Alpha Vocabulary List 68
Answering Machine 53, 82, 95
Arm Away/Stay Report Code 81, 93
Arming Away 101
Arming Instant 101
Arming Maximum 101
Arming Modes 101
Arming Stay 101
Arm–Away 84
Arm–Stay 84
Audible Exit Warning 87
Audio Alarm Verification (AAV) 10, 50, 63
Auxiliary Output 66
Auxiliary Power Output 11

– B –

Baby-sitter Code 10, 100
Back-Up Battery 11, 16, 57, 65
Basic Hardwired Zones 9
Battery Connector Cable 66
Battery Life 35
Battery Size 65
Battery Standby Formula 66
Bells 56
Busy Signal 52
Button Type Transmitters 34, 72
Bypass Report Code 80, 92
Bypass Restore Report Code 81, 93
Bypassing Zones 101

– C –

Cabinet Lock 12
Caller ID unit 51, 52
Cancel Report Code 81, 93
Central Station 92
Character (ASCII) Chart 71
Character Chart 67
Character List 70

Charging Voltage 108
Check-In Signal 34
Chime Mode 101
Communication 108
Communication Failure 103
Communication Formats Supported 11, 76
Compatible 2-Wire Smoke Detectors 23
Compatible 4-Wire Smoke/Combustion Detectors 24, 110
Compatible Glass Break Detectors 24
Compatible Sounders 55
Confirmation of Arming Ding 56, 87
Contact ID 58, 63, 77, 80, 92
Contact ID Event Codes 77
Contact ID Reporting 108
Control Cabinet 12
Control's Circuit Board 13
Custom Alpha Editing 94
Custom Words 70, 71

– D –

Default Descriptor 68
Default Values 90
Device Address 28, 58
Device Number 48
Dialer Programming 87
DIP Switch 28, 32, 33, 34, 41, 42
Disarm 84
Disarmed, Not Ready 101
Disarming 101
Download Information 95
Download Phone Number 82, 95
Downloader 34, 37, 90
Downloading 82
Duress Code 10, 100

– E –

Eagle 1241 63
Earth Ground 16, 65
Enter Program Mode 20
Entry Delay 83,104
Entry/Exit Burglary 48, 77, 83
EOL Resistor 19, 22, 23, 27, 31, 59
EOL Supervision 34
EOLR 28, 59
Event Log 80% Full Report Code 81, 94
Event Logging 11, 82, 94
Exit Error Alarm Displays 102
Exit Delay 83, 104
Exit Alarm 92
Exit Error Report Code 80, 92
Exit Programming Mode 21, 95
Expanded or 4+2 Format 80, 92

– F –

Factory Defaults 21
FCC 107
Fire Alarm Sounding 22
Fire Sounder Timeout 56, 86
Fixed-Word Keypads 9
Forced (Quick) Bypass 20, 101
Forced Bypass Function 85
Formats 75, 76
Fuse 108

– G –

Go/No Go Test Mode 41, 99
Group Restores For Trouble, RF Low Battery, Bypass .. 81
Group Restores For Trouble, RF Low Battery, Bypass .. 93

– H –

Handshake 75
Hard-Wired Zones 22
Hayes Modem 11, 96
House ID 32, 41

– I –

IBM Compatible Personal Computer (PC) 20, 96
Ideal Model 61–035 ..... 16, 65
IEI 735L 24
Initialize Download ID And Subscriber Acct. No. For Downloading 82, 95
Input Device Types 90
Installer Code 20, 85
Interactive Mode 34, 38, 47, 49, 72
Interactive Programming 25, 47, 61
Interior w/Delay 84
Interior, Follower 83

– K –

Keypad Connections 18
Keypad Panic Keys 10, 102
Keypads 9, 17, 18
Keyswitch Enable 20, 21, 86
Keyswitch Operation 62
Kissoff 75

– L –

Learn 90
Learned 39, 34, 38
Learning 35
LED indications 62
LEDs 59
Line Seizure 52
Lock 12
Lock Switch 59
Long Range Radio 10, 58
Low Bat Report Code 80, 92
Low Bat Restore Report Code 81, 93
Low Battery Message 66, 104
LRR Communication Failure 103

– M –

Magnets 72, 104
Main PC Board 12
Master Code 100
Model 112 59
Modem 20
Momentary Switch 59
Monitored Telephone Line 103

– N –

No Alarm Response 84
No. 1321/TF2 110
No. 467 (12V, 4AH) Battery 65
No. 7720 PLUS/No. 7820 58
Non-Removable Battery 72, 74
Number Of Reports In Armed Period 82, 94

– O –

Off-Premises Phone 54
On-Premises Phone 54
Open Report Code 80, 93

Optima 24 Plus FAX 96 Modem 96
Option Selection 63, 94
Output Devices 45, 93
Output Relays 10, 47
Output To Long Range Radio 86

– P –

PA400R 55, 110
PABX Access Code 78, 87
Panic Keys 102
Partition Default 90
Partitions 9
Perimeter Burglary 83
Periodic Test Report 79, 89
Phone Access 50, 53
Phone Line 15
Phone Line Monitor Enable 82, 94
Phone System Select 78, 88
Power Failure 103
Power LED 65
Power Up In Previous State 87
Powerline Carrier Device (X-10) House ID 47, 86
Powerline Carrier Devices 10, 11, 42, 43, 47, 48, 85, 86, 93, 102
Primary Phone No. 78, 87
Primary Subscriber Account. No. 78, 88
Program Mode 20
Program Upload or Download Time 97
Programming Information 20
Pulse Dialing 50

– Q –

Quick Arm 101
Quick Arm Enable 20, 85

– R –

Radionics/SESCOA 108
Ready LED 65
Receiver Supervision 32
Reed Switch 72
Relay Outputs 42
Relay/Powerline Carrier Devices 102
Relay Programming 21
Relays 42
Remote Keypads 9
Remote Programming 96
Report Codes 80, 90, 92
Report Code Formats 75
Report Format 88
Report Format, Primary/Secondary 79
Response Time 62, 90
Restore 93
RF Button Type Transmitter 37
RF House ID 34
RF House ID Code 36, 85
RF Input 90
RF Interference 33
RF Keys 34
RF Receiver 33
RF System 20, 21, 85
RF Xmtr. Low Battery Report Code 81, 93
RF Xmtr. Low Battery Restore Code 81, 93
Ring Detection 82
Ring Detection Count For Downloading 95
RJ31X Jack 15, 51, 52

– S –

Scrolling 67
Secondary Phone No. 78, 87
Secondary Subscriber Account. No. 78, 88
Secondary User Codes 100
Security Codes 100
Serial Number 21, 39, 72, 73, 74, 104
Sescoa/Radionics 11
Sescoa/Radionics Select 79, 89
Set All Program Fields To Default Values 95
Silent Burglary 84
Silent Panic 102
Single Alarm Sounding Per Zone 86
Single Alarm Sounding per Zone/Armed Period 56
Sirens 56
SMARTMODEM 1200 96
Split/Dual Reporting 79, 89
Supervised Fire 84
Supervised RF 35
Supervised RF transmitter 37
Supplementary Power Supply 18
System Communication 75
System Operation 48, 100
System Status And Restore Report Codes 80, 81, 92
System Status Report Codes 92

– T –

Tamper Protection 28, 35
Tamper Switch 59
Technical Support 106
Telco line 52
Telephone Line Monitoring 10, 82
Test Mode 98, 99
Test Report Code 80, 92
Test Report Offset 79, 89
Test Restore Report Code 81, 93
TouchTone 50
TouchTone Phone 54
Transmitter Input Loop Identification 111
Transmitter Input Types 35
Transmitter Serial Number 37
Transmitter Sniffer Mode 38, 39, 98, 104
Transmitter Supervision 34
Trouble By Day/Alarm By Night 83
Trouble Condition 103
Trouble Report Code 80, 92
Trouble Restore Report Code 81, 93

– U –

UL 16, 18, 34, 43, 55, 66, 107, 108
Unsupervised Button 35
Unsupervised RF 34, 35
Unsupervised RF transmitter 37

– V –

Verification Feature 25
Verify Operation 22
V-LINK® Downloading Software Diskette 97
V-LINK® Software 96
Vocabulary List 71
Voice Module 15, 51, 52, 53, 95, 102
Voice Module Access Code 53
Voice Module Phone Code 86

– W –

Wired Expansion 9
Wired Expansion Zones 29
Wired Zone Expansion 20, 21, 85
Wireless Expansion 9
Wireless Transmitters 32, 72
Wireless Transmitters, Input Loop Identification 111
Wireless Zones 32
Wiring 2-Wire Smoke Detectors 22
Wiring 4-Wire Smoke/Combustion Detectors 23
Wiring Length/Gauge Chart 17
Wiring Run Chart 17
Wiring Table 15
Word String 70
Worksheet 66

– X –

X-10 ..... 10, 11, 42, 47, 48, 85, 86, 93, 102

– Z –

Zone Assignment/Alarm Report Codes 89
Zone Descriptors 11, 53, 69, 71
Zone Expansion 28
Zone List 21
Zone Lists for Output Devices 49, 93
Zone Not Used 83
Zone Programming 21
Zone Sounds And Timing 86
Zone Type 25, 29, 37, 48, 83, 90
Zone Type 01 Entry Delay 87
Zone Type Default 90

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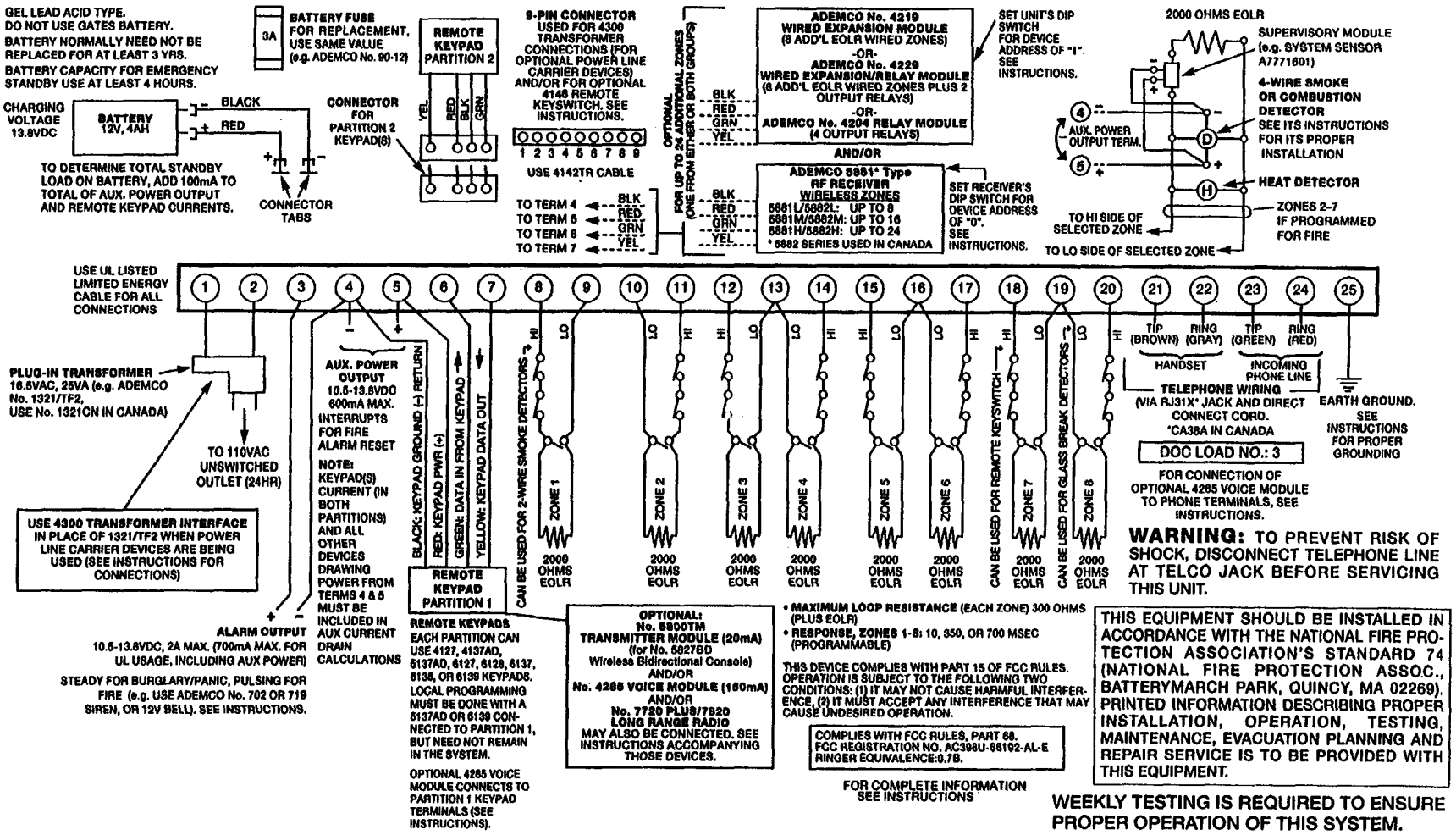
GEL LEAD ACID TYPE.
DO NOT USE GATES BATTERY.
BATTERY NORMALLY NEED NOT BE REPLACED FOR AT LEAST 3 YRS.
BATTERY CAPACITY FOR EMERGENCY STANDBY USE AT LEAST 4 HOURS.
3A
BATTERY FUSE FOR REPLACEMENT, USE SAME VALUE (e.g. ADEMCO No. 90-12)
CHARGING VOLTAGE 13.8VDC
BATTERY 12V, 4AH
BLACK
RED
CONNECTOR FOR PARTITION 2 KEYPAD(S)
TO DETERMINE TOTAL STANDBY LOAD ON BATTERY, ADD 100mA TO TOTAL OF AUX. POWER OUTPUT AND REMOTE KEYPAD CURRENTS.
CONNECTOR TABS
REMOTE KEYPAD PARTITION 2
YEL
RED
BLK
GRN
9-PIN CONNECTOR USED FOR 4300 TRANSFORMER CONNECTIONS (FOR OPTIONAL POWER LINE CARRIER DEVICES) AND/OR FOR OPTIONAL 4146 REMOTE KEYSWITCH. SEE INSTRUCTIONS.
1 2 3 4 5 6 7 8 9
USE 4142TR CABLE
TO TERM 4
TO TERM 5
TO TERM 6
TO TERM 7
BLK
RED
GRN
YEL
OPTIONAL FOR UP TO 24 ADDITIONAL ZONES (ONE FROM EITHER OR BOTH GROUPS)
ADEMCO No. 4219 WIRED EXPANSION MODULE (8 ADD'L EOLR WIRED ZONES)
-OR-
ADEMCO No. 4229 WIRED EXPANSION/RELAY MODULE (8 ADD'L EOLR WIRED ZONES PLUS 2 OUTPUT RELAYS)
-OR-
ADEMCO No. 4204 RELAY MODULE (4 OUTPUT RELAYS)
SET UNIT'S DIP SWITCH FOR DEVICE ADDRESS OF "1". SEE INSTRUCTIONS.
AND/OR
ADEMCO 5881* Type RF RECEIVER
WIRELESS ZONES
5881L/5882L: UP TO 8
5881M/5882M: UP TO 16
5881H/5882H: UP TO 24
* 5882 SERIES USED IN CANADA
SET RECEIVER'S DIP SWITCH FOR DEVICE ADDRESS OF "0". SEE INSTRUCTIONS.
2000 OHMS EOLR
SUPERVISORY MODULE (e.g. SYSTEM SENSOR A7771601)
4-WIRE SMOKE OR COMBUSTION DETECTOR SEE ITS INSTRUCTIONS FOR ITS PROPER INSTALLATION
AUX. POWER OUTPUT TERM.
HEAT DETECTOR
TO HI SIDE OF SELECTED ZONE
ZONES 2-7 IF PROGRAMMED FOR FIRE
TO LO SIDE OF SELECTED ZONE
USE UL LISTED LIMITED ENERGY CABLE FOR ALL CONNECTIONS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
PLUG-IN TRANSFORMER 16.5VAC, 25VA (e.g. ADEMCO No. 1321/TF2, USE No. 1321CN IN CANADA)
TO 110VAC UNSWITCHED OUTLET (24HR)
USE 4300 TRANSFORMER INTERFACE IN PLACE OF 1321/TF2 WHEN POWER LINE CARRIER DEVICES ARE BEING USED (SEE INSTRUCTIONS FOR CONNECTIONS)
AUX. POWER OUTPUT 10.5-13.8VDC 600mA MAX. INTERRUPTS FOR FIRE ALARM RESET
NOTE: KEYPAD(S) CURRENT (IN BOTH PARTITIONS) AND ALL OTHER DEVICES DRAWING POWER FROM TERMS 4 & 5 MUST BE INCLUDED IN AUX CURRENT DRAIN CALCULATIONS
BLACK: KEYPAD GROUND (-) RETURN
RED: KEYPAD PWR (+)
GREEN: DATA IN FROM KEYPAD
YELLOW: KEYPAD DATA OUT
REMOTE KEYPAD PARTITION 1
ALARM OUTPUT
10.5-13.8VDC, 2A MAX. (700mA MAX. FOR UL USAGE, INCLUDING AUX POWER)
STEADY FOR BURGLARY/PANIC, PULSING FOR FIRE (e.g. USE ADEMCO No. 702 OR 719 SIREN, OR 12V BELL). SEE INSTRUCTIONS.
REMOTE KEYPADS
EACH PARTITION CAN USE 4127, 4137AD, 5137AD, 6127, 6128, 6137, 6138, OR 6139 KEYPADS.
LOCAL PROGRAMMING MUST BE DONE WITH A 5137AD OR 6139 CONNECTED TO PARTITION 1, BUT NEED NOT REMAIN IN THE SYSTEM.
OPTIONAL 4285 VOICE MODULE CONNECTS TO PARTITION 1 KEYPAD TERMINALS (SEE INSTRUCTIONS).
CAN BE USED FOR 2-WIRE SMOKE DETECTORS
ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 5
ZONE 6
CAN BE USED FOR REMOTE KEYSWITCH
ZONE 7
CAN BE USED FOR GLASS BREAK DETECTORS
ZONE 8
2000 OHMS EOLR
OPTIONAL: No. 5800TM TRANSMITTER MODULE (20mA) (for No. 5827BD Wireless Bidirectional Console) AND/OR No. 4285 VOICE MODULE (150mA) AND/OR No. 7720 PLUS/7820 LONG RANGE RADIO MAY ALSO BE CONNECTED. SEE INSTRUCTIONS ACCOMPANYING THOSE DEVICES.
• MAXIMUM LOOP RESISTANCE (EACH ZONE) 300 OHMS (PLUS EOLR)
• RESPONSE, ZONES 1-8: 10, 350, OR 700 MSEC (PROGRAMMABLE)
THIS DEVICE COMPLIES WITH PART 15 OF FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) IT MAY NOT CAUSE HARMFUL INTERFERENCE, (2) IT MUST ACCEPT ANY INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.
COMPLIES WITH FCC RULES, PART 68. FCC REGISTRATION NO. AC398U-68192-AL-E RINGER EQUIVALENCE:0.7B.
FOR COMPLETE INFORMATION SEE INSTRUCTIONS
TIP (BROWN)
RING (GRAY)
TIP (GREEN)
RING (RED)
HANDSET
INCOMING PHONE LINE
TELEPHONE WIRING (VIA RJ31X* JACK AND DIRECT CONNECT CORD. *CA38A IN CANADA
DOC LOAD NO.: 3
FOR CONNECTION OF OPTIONAL 4285 VOICE MODULE TO PHONE TERMINALS, SEE INSTRUCTIONS.
EARTH GROUND. SEE INSTRUCTIONS FOR PROPER GROUNDING
WARNING: TO PREVENT RISK OF SHOCK, DISCONNECT TELEPHONE LINE AT TELCO JACK BEFORE SERVICING THIS UNIT.
THIS EQUIPMENT SHOULD BE INSTALLED IN ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION'S STANDARD 74 (NATIONAL FIRE PROTECTION ASSOC., BATTERYMARCH PARK, QUINCY, MA 02269). PRINTED INFORMATION DESCRIBING PROPER INSTALLATION, OPERATION, TESTING, MAINTENANCE, EVACUATION PLANNING AND REPAIR SERVICE IS TO BE PROVIDED WITH THIS EQUIPMENT.
WEEKLY TESTING IS REQUIRED TO ENSURE PROPER OPERATION OF THIS SYSTEM.

Figure 22. VISTA-20 SUMMARY OF CONNECTIONS

ALARM DEVICE MANUFACTURING CO.
A DIVISION OF PITTWAY CORPORATION
165 Eileen Way, Syosset, New York 11791
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